

<b>REQUEST FOR QUOTATION</b> (THIS IS NOT AN ORDER)			THIS RFQ <input checked="" type="checkbox"/> IS <input type="checkbox"/> IS NOT A SMALL BUSINESS SET-ASIDE		PAGE 1 OF 9 PAGES	
1. REQUEST NO. N65540-03-Q-0577		2. DATE ISSUED 03 AUG 29		3. REQUISITION/PURCHASE REQUEST NO. 96000 31818432		4. CERT. FOR NAT. DEF. UNDER BDSA REG. 2 AND/OR DMS REG. 1
5a. ISSUED BY CONTRACTING OFFICER NSWC CARDEROCK DIVISION				6. DELIVER BY (Date) <b>180 DAYS AFTER AWARD DATE</b>		
5b. FOR INFORMATION CALL (NO COLLECT CALLS)				7. DELIVERY <input checked="" type="checkbox"/> FOB DESTINATION <input type="checkbox"/> OTHER (See Schedule)		
NAME 5001 S. BROAD STREET, CODE 335 PHILADELPHIA, PA 19112-1403 LINDA STIEMKE		TELEPHONE NUMBER AREA CODE NUMBER 215 897-1355 FAX: 215 897-7059		9. DESTINATION N65540		
8. TO:				a. NAME OF CONSIGNEE NAVAL BUSINESS CENTER RECEIVING OFFICER NSWC CARDEROCK DIVISION		
a. NAME		b. COMPANY		b. STREET ADDRESS 1601 LANGLEY AVENUE BLDG 542 E		
c. STREET ADDRESS				c. CITY PHILADELPHIA		
d. CITY		e. STATE		f. ZIP CODE		d. STATE PA
						e. ZIP CODE 19112-5051
10. PLEASE FURNISH QUOTATIONS TO THE ISSUING OFFICE IN BLOCK 5A ON OR BEFORE CLOSE OF BUSINESS (Date) 03 SEP 19			IMPORTANT: This is a request for information and quotations furnished are not offers. If you are unable to quote, please so indicate on this form and return it to the address in Block 5A. This request does not commit the Government to pay any costs incurred in the preparation of the submission of this quotation or to contract for supplies or services. Supplies are of domestic origin unless otherwise indicated by quoter. Any representations and/or certifications attached to this Request for Quotations must be completed by the quoter.			
<b>11. SCHEDULE (Include applicable Federal, State and local taxes)</b>						
ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	
0001	REQN. NO. 96000 /31818432 SAIL SYSTEM SUPPORT KIT, IN ACCORDANCE WITH THE ATTACHED SPECIFICATION	8	KT			
0002	REQN. NO. 96000 /31818437 TECHNICAL DATA FOR ITEM 0001, IN ACCORDANCE WITH THE ATTACHED DD FORM 1423, CONTRACT DATA REQUIREMENTS LIST  *NSP (NOT SEPARATELY PRICED) OFFERORS ARE REQUESTED TO INCLUDE THE PRICE, IF ANY, FOR THE TECHNICAL DATA COVERED BY ITEM 0002 IN THE PRICE FOR THE SAIL SYSTEM SUPPORT KIT COVERED BY ITEM 0001.	1	LT	NSP*		
12. DISCOUNT FOR PROMPT PAYMENT		a. 10 CALENDAR DAYS (%)		b. 20 CALENDAR DAYS (%)		c. 30 CALENDAR DAYS (%)
						d. CALENDAR DAYS NUMBER PERCENTAGE
NOTE: Additional provisions and representations <input type="checkbox"/> are <input type="checkbox"/> are not attached						
13. NAME AND ADDRESS OF QUOTER			14. SIGNATURE OF PERSON AUTHORIZED TO SIGN QUOTATION		15. DATE OF QUOTATION	
a. NAME OF QUOTER						
b. STREET ADDRESS			16. SIGNER			
c. COUNTY			a. NAME (Type or print)		b. TELEPHONE	
					AREA CODE	
d. CITY		e. STATE	f. ZIP CODE	c. TITLE (Type or print)		NUMBER

## EVALUATION CRITERIA

The Government intends to make an award under this Request for Quotations (RFQ) to the offeror who submits the low price technically acceptable quotation. Technical acceptability shall be determined on the basis of the following factors: Machining/Facilities, Material Availability, and Past Performance.

As part of any quotation submitted in response to this Request for Quotations (RFQ) offerors shall provide information on their Machining/Facilities, Material Availability and Past Performance as described below:

**Machining / Facilities:** The offeror shall provide information describing/identifying the machines, equipment, tooling, facilities and any other resources it possesses that demonstrate the capability to furnish the Sail Systems Support Kit covered by this RFQ.

**Material Availability:** Offerors shall provide information that demonstrates that capability to obtain the materials required to be utilized in the fabrication of the Sail Systems Support Kit covered by this RFQ and to ensure compliance with the required delivery schedule.

**Past Performance:** The offeror shall demonstrate that it possesses a satisfactory performance record by providing information on three contracts/orders completed within the last three years. This information must include an identification of the prior contract/order number, the name and address of the customer, a description of supplies or services furnished, the dollar value, and identify a customer point of contact (name and telephone number) that may be contacted by the Government for information on the quality and timeliness of the offeror's performance.

Quotations will be rated as Acceptable or Unacceptable under each of the evaluation factors identified above, and based on these ratings, assigned an overall rating of Acceptable or Unacceptable. In order for a quotation to be assessed as Acceptable on an overall basis, it must obtain an Acceptable rating in all three evaluation factors, and a rating of Unacceptable in any one factor will result in an overall rating of Unacceptable. Failure of an offeror to provide adequate information will result in a rating of Unacceptable.

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SECTION F TIME OF DELIVERY

DELIVERIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS

ITEM	QUANTITY	DELIVERY REQUIRED
0001	8 KT	180 DAYS AFTER DATE OF ORDER
0002	1 LT	180 DAYS AFTER DATE OF ORDER

FAR 52.246-2 INSPECTION OF SUPPLIES--FIXED PRICE (AUG 1996)

FAR 52.246-11 HIGHER-LEVEL CONTRACT QUALITY REQUIREMENT (FEB 1999)  
THE CONTRACTOR SHALL COMPLY WITH THE HIGHER-LEVEL QUALITY STANDARD  
SELECTED BELOW.  
ANSI/ISO/ASQ Q9001-2000 OR MIL-I-45208

52.213-4 Terms and Conditions--Simplified Acquisitions (Other Than Commercial Items) (AUG 2003)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) and Defense Federal Acquisition Regulation Supplement (DFARS) clauses that are incorporated by reference:

(1) The clauses listed below implement provisions of law or Executive order:

- (i) 52.222-3, Convict Labor (June 2003) (E.O. 11755).
- (ii) 52.222-21, Prohibition of Segregated Facilities (Feb 1999) (E.O. 11246).
- (iii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).
- (iv) 52.225-13, Restrictions on Certain Foreign Purchases (June 2003) (E.O.'s 12722, 12724, 13059, 13067, 13121, and 13129). (Note: The clause 52.225-13, Restrictions on Certain Foreign Purchases (JUN 2003) (DEVIATION) appearing in full text elsewhere in this document replaces this 52.225-13.)

(v) 52.233-3, Protest After Award (Aug 1996) (31 U.S.C. 3553).

(2) Listed below are additional clauses that apply:

- (i) 252.204-7003, Control of Government Personnel Work Product (Apr 1992)
- (ii) 52.232-1, Payments (Apr 1984).
- (iii) 52.232-8, Discounts for Prompt Payment (Feb 2002).
- (iv) 52.232-11, Extras (Apr 1984).
- (v) 52.232-25, Prompt Payment (Feb 2002).
- (vi) 52.233-1, Disputes (Jul 2002).
- (vii) 252.243-7001 Pricing of Contract Modifications (Dec 1991)
- (viii) 52.244-6, Subcontracts for Commercial Items (Apr 2003).
- (ix) 52.253-1, Computer Generated Forms (Jan 1991).

(b) The Contractor shall comply with the following FAR and DFARS clauses, incorporated by reference, unless the circumstances do not apply:

(1) The clauses listed below implement provisions of law or Executive order:

- (i) 52.222-19, Child Labor--Cooperation with Author-

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ities and Remedies (Sept 2002) (E.O. 13126). (Applies to contracts for supplies exceeding the micro-purchase threshold.)

(ii) 52.222-20, Walsh-Healey Public Contracts Act (Dec 1996) (41 U.S.C. 35-45) (Applies to supply contracts over \$10,000 in the United States, Puerto Rico, or the U.S. Virgin Islands).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Dec 2001) (38 U.S.C. 4212) (Applies to contracts of \$25,000 or more).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793). (Applies to contracts over \$10,000, unless the work is to be performed outside the United States by employees recruited outside the United States.) (For purposes of this clause, United States includes the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.)

(v) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Dec 2001) (38 U.S.C. 4212) (Applies to contracts of \$25,000 or more).

(vi) 52.222-41, Service Contract Act of 1965, As Amended (May 1989) (41 U.S.C. 351, et seq.) (Applies to service contracts over \$2,500 that are subject to the Service Contract Act and will be performed in the United States, District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, Johnston Island, Wake Island, or the outer continental shelf lands).

(vii) 52.223-5, Pollution Prevention and Right-to-Know Information (Aug 2003) (E.O. 13148) (Applies to services performed on Federal facilities).

(viii) 252.225-7001, Buy American Act and Balance of Payments Program (Apr 2003) (Applies to all contracts for supplies unless an exception is authorized by DFARS 225.1101(2) (i) through (iv)).

(ix) 252.225-7013, Duty-Free Entry (Apr 2003) (Applies to all contracts for supplies except those supplies that will not enter the customs territory of the United States).

(x) 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration (May 1999). (Applies when the payment will be made by electronic funds transfer (EFT) and the payment office uses the Central Contractor Registration (CCR) database as its source of EFT information.)

(xi) 52.232-34, Payment by Electronic Funds Transfer--Other than Central Contractor Registration (May 1999). (Applies when the payment will be made by EFT and the payment office does not use the CCR database as its source of EFT information.)

(xii) 252.247-7023, Transportation of Supplies by Sea (May 2002) Alternate III (May 2002) (Applies when transporting any supplies by sea under this contract.)

(2) Listed below are additional clauses that may apply:

(i) 252.204-7004, Required Central Contractor Registration (Nov 2001) (Applies to all contracts unless an exception is authorized by DFARS 204.7302.)

(ii) 52.209-6, Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (July 1995) (Applies to contracts over \$25,000).

(iii) 52.211-5 Material Requirements (Aug 2000) (Applies to contracts for supplies that are not commercial items).

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- (iv) 52.211-17, Delivery of Excess Quantities (Sept 1989) (Applies to fixed-price supplies).
- (v) 52.225-7002, Qualifying Country Sources as Subcontractors (Apr 2003) (Applies if the contract is subject to the DFARS clause 52.225-7001, Buy American Act and Balance of Payments Program (see (b)(1)(viii) above)).
- (vi) 52.243-1, Changes--Fixed Price (Aug 1987) (Applies to fixed-price contracts for supplies).
- (vii) 52.243-1, Changes--Fixed Price (Aug 1987) Alternate I (Apr 1984) (Applies to fixed price contracts for services, other than architect-engineer or other professional services, and no supplies are to be furnished).
- (viii) 52.243-1, Changes--Fixed Price (Aug 1987) Alternate II (Apr 1984) (Applies to fixed price contracts for services (other than architect-engineer services, transportation, or research and development) and supplies are to be furnished).
- (ix) 52.243-1, Changes--Fixed Price (Aug 1987) Alternate V (Apr 1984) (Applies to fixed price contracts for research and development).
- (x) 52.247-29, F.o.b. Origin (Jun 1988) (Applies to supplies if delivery is f.o.b. origin).
- (xi) 52.247-34, F.o.b. Destination (Nov 1991) (Applies to supplies if delivery is f.o.b. destination).
- (xii) 52.222-42, Statement of Equivalent Rates for Federal Hires (May 1989) (Applies if the contract amount is expected to be over \$2,500 and the contract is subject to the clause 52.222-41, "Service Contract Act of 1965, As Amended" (see (b)(1)(vi) above)).

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

This Statement is for Information Only:

It is not a Wage Determination

Employee Class	Monetary Wage--Fringe Benefits
_____	_____
_____	_____
_____	_____

(xiv) 52.246-11 Higher-Level Contract Quality Requirement (Feb 1999) (Applies to contracts when the contracting officer finds it is in the Governments interest to require that higher-level quality standards be maintained and such standards are selected and identified in the clause).

The Contractor shall comply with the higher-level quality standard selected below. [If more than one standard is listed, the offeror shall indicate its selection by checking the appropriate block.]

	Title	Number	Date	Tailoring
*	_____	_____	_____	_____
*	_____	_____	_____	_____
*	_____	_____	_____	_____

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\*

[Contracting Officer insert the title, number (if any), date, and tailoring (if any) of the higher-level quality standards.]

(c) FAR 52.252-2, Clauses Incorporated by Reference (Feb 1998). This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

FAR clauses - <http://www.arinet.gov/far/>

DFARS clauses - <http://www.acq.osd.mil/dp/dars/dfars.html>

(d) Inspection/Acceptance. The Contractor shall tender for acceptance only those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. The Government must exercise its postacceptance rights--

(1) Within a reasonable period of time after the defect was discovered or should have been discovered; and

(2) Before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(e) Excusable delays. The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence, such as acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(f) Termination for the Government's convenience. The Government reserves the right to terminate this contract, or any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges that the Contractor can demonstrate to the satisfaction of the Government, using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred that reasonably could have been avoided.

(g) Termination for cause. The Government may terminate this contract, or any part hereof, for cause in the event of

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any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(h) Warranty. The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.

(End of clause)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JUN 2003) (DEVIATION) (Note: The basic FAR clause 52.225-13 appears in paragraph (a)(1)(4) of the clause 52.213-4 appearing elsewhere in this document. However, the basic clause is replaced by this deviation version of the clause.)

(a) Except as authorized by the Office of Foreign Assets Control (OFAC) in the Department of the Treasury, the Contractor shall not acquire, for use in the performance of this contract, any supplies or services, if any Executive order administered by OFAC, or OFAC's regulations set forth at 31 CFR Chapter V would prohibit such a transaction by a person subject to the jurisdiction of the United States.

(b) Except as authorized by OFAC, most transactions involving Cuba, Iran, Libya, and Sudan are prohibited, as are most imports into the United States from North Korea. Lists of entities and individuals subject to economic sanctions are included in OFAC's List of Specially Designated Nationals and Blocked Persons. More information about these restrictions as well as updates with respect to restrictions imposed after April 2003, is available in the OFAC's regulations at 31 CFR Chapter V and/or on OFAC's website at <http://www.treas.gov/ofac>.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

Your quotation must include the following information:

Price list number and date

or

Cost breakdown by direct labor (list categories, hours and pay rates). In addition to the direct rates, provide the applicable indirect information (G&A), overhead, facilities capital cost of money (FCCM) and profit.

or

Applicable General Services Administration (GSA) contract number.

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If unable to quote FOB, Destination, please complete the following:

FOB Point \_\_\_\_\_

Estimated Shipping Charge \_\_\_\_\_

Business size:

Large \_\_\_\_\_ Small \_\_\_\_\_ Nonprofit \_\_\_\_\_

Cage Code \_\_\_\_\_

Tax Identification Number (TIN) \_\_\_\_\_

DUNNS \_\_\_\_\_

ELIGIBILITY REQUIREMENTS

All contractors and individuals doing business with the Federal Government must be registered at the Contractor Central Registration Database located at:  
<http://ccr.dlsc.dla.mil/>.

ELECTRONIC DISTRIBUTION OF CONTRACT DOCUMENTS

All contract award and contract modification documents will be distributed electronically using the Navy Air Force Interface (NAFI) system. The contractor's copy will be provided in portable document format (pdf) as an attachment to an e-mail that will be sent to the contractor by the NAFI system. A pdf file may be accessed using Adobe Acrobat Reader software. This is a free software that may be downloaded at:  
<http://www.adobe.com/products/acrobat/readstep.html>

Provide the following information that will be used to make electronic distribution for any resultant contract:

Name of Point of Contact to Receive  
Distribution \_\_\_\_\_

Phone Number for Point of Contact \_\_\_\_\_

E-Mail Address for Receipt of Distribution \_\_\_\_\_

USE OF THE GOVERNMENTWIDE COMMERCIAL PURCHASE CARD

Will you accept the Governmentwide Commercial Purchase Card as a method of purchasing supplies and/or services.

\_\_\_\_ Yes

\_\_\_\_ No

Will you accept the Governmentwide Commercial Purchase Card



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as a method of payment for your invoice.

☐ Yes

☐ No

DUTY FREE ENTRY

Will any materials being shipped to the Government require a duty-free entry certificate for foreign supplies.

☐ Yes

☐ No

If yes, please include dollar amount \$ \_\_\_\_\_

## SAIL SYSTEM SUPPORT KIT SPECIFICATION

### 1.0 General

The Sail System Support Kits to be furnished under Item 0001 shall consist of the following components:

<u>Description</u>	<u>Qty per kit</u>	<u>Part No.</u>	<u>Note</u>
Hoist Cylinder Extracting Screws	3	7377750	
Special Face Spanner Wrench	1	7377879-1	
T-Handle Box Wrench	1	7377886-1	
Spacer Ring	1	7377889	
Hoist Cylinder Lifting Tool	1	7377890-1	
Mast Fairing Lifting Tool	1	7377883-1	
Internal Bearing Lifting Tool	1	7377880-1	
Hydraulic Adapter Assembly	1	7225784 (mod)	1
Plate	1	7377736	2
5/16-18 UNC-2A x 1/2" LG Shoulder Eyebolts	4	Commercial Item	

#### Notes

1. Use the closest standard English end fittings in place of the metric end fittings called out on the drawings. DO NOT remove hydraulic fittings after testing.
2. The plate shall be installed on the Hydraulic Adapter Assembly for shipping.

The Technical Data to be furnished under Item 0002 shall be in accordance with the requirements contained herein and in accordance with the DD Form 1423, Contract Data Requirements List, Exhibit A.

### 2.0 Referenced Documents:

- a. 7377750, Rev A: Hoist Cylinder Extracting Screw
- b. 7377879, Rev A: Special Face Spanner Wrench Assembly and Details
- c. 7377886, Rev A: T-Handle Box Wrench Assembly and Details
- d. 7377889, Rev A: Spacer Ring
- e. 7377890, Rev A: Hoist Cylinder Lifting Tool Assembly and Details
- f. 7377883, Rev A: Mast Fairing Lifting Tool Assembly and Details
- g. 7377880, Rev A: Internal Bearing Lifting Tool Assembly and Details
- h. 7225784, Rev A: Hydraulic Adapter Assy
- i. 7225849, Rev A: Adapter Body
- j. 7377812, Rev C: Adapter (SEE NOTE 1 BELOW)

- k. 7225891, Rev A: Connector Tube
- l. 7225892, Rev A: Connector Tube
- m. 7225897, Rev A: Pin
- n. 7377507, Rev A: Pin
- o. 7377736, Plate
- p. PPS 7225759, Rev A: Procedure/Product Specification for Painting Hoist Cylinder Assy and Adapter of UMM
- q. PPS 7225971, Rev A: Procedure/Product Specification for Cleaning and Fluxing UMM Cylinder Adapter
- r. 7535160, Rev A: UMM Special Tool Identification Plate
- s. TP 9612-T-203:Hydraulic Cylinder Lifting Tool Weight Test Certification
- t. TP 9612-T-204: Mast Fairing Lifting Device Weight Test Certification
- u. TP 9612-T-206: Internal Bearing Lifting Tool Weight Test Certification

**NOTE:**

1. The contractor shall disregard Note 3 on drawing 7377812, Revision C for the Adapter and shall comply with the quality assurance requirements contained in this specification.

### **3.0 Quality Assurance Requirements:**

#### **3.1. Contractor's Quality/Inspection System:**

- a. The contractor shall establish and maintain a written inspection system, which will assure that all supplies and services submitted to the Government for acceptance conform to contract requirements whether manufactured or processed by the contractor, or procured from subcontractors or vendors. The contractor shall perform or have performed the inspections and tests required to substantiate product conformance to drawing, specifications and contract requirements and shall also perform or have performed all inspections and tests otherwise required by the contract. The contractor's inspection system shall be documented and shall be submitted for review to the Naval Surface Warfare Center Carderock Division – Philadelphia Site, Naval Business Center, Bldg. 29, Phila., PA 19112-5083, Attn. Code 9613, fifteen (15) days after award. The contractor shall notify the Naval Surface Warfare Center Carderock Division – Philadelphia Site in writing of any change to the inspection system. The inspection system shall be subject to disapproval if changes thereto would result in nonconforming product. Vendors currently operating under ANSI/ISO/ASQ Q9001-2000 or MIL-I-45208 quality system will be deemed acceptable under this provision.
- b. The Quality/Inspection System shall include the following:
  - 1) Document Control

- 2) Purchasing
- 3) Control of Customer Supplied Material (Government Furnished Material)
- 4) Product Identification and Traceability
- 5) Process Control
- 6) Inspection and Testing
- 7) Inspection Measuring and Test Equipment Calibration in accordance with the requirements of ANSI/NCSL Z540-1 or ISO 10012-1.
- 8) Inspection and Test Status
- 9) Control of Nonconforming Product
- 10) Corrective Action
- 11) Handling, Storage, Packaging, and Delivery
- 12) Records
- 13) Controls to assure sub-contractors comply with contract quality system requirements.

### 3.2. Procedures:

- 1) Nondestructive Test Procedures in accordance with NAVSEAT9074-AS-GIB-010/271 for:
  - a) Dye Penetrant
  - b) Visual.
- 2) A written welding procedure and welder Qualification data in accordance with NAVSEA S9074-AR-GIB-010/278.

### 3.3. Records:

- a. For each assembly, component, delivered item, the supplier shall furnish one (1) copy of the following documents correlated to the contract number and serial number assigned to the assembly:
  - 1) For Contractor-Furnished Raw Material:
    - a) For contractor-supplied material, the contractor shall supply documented verification of raw material by alloy families using simple, direct and rapid analysis methods or a combination of methods (e.g., visual, hardness test, magnetic properties test, acid spot tests, and metal comparator tests).
  - 2) Copies of qualifications of personnel performing welding under this contract in accordance with NAVSEA S9074-AQ-GIB-010/248.
  - 3) Test reports showing the results of non-destructive testing inspections. Report must include joint identification, plan number, piece number, compliance to

NAVSEA T9074-AS-GIB-010/271 for procedures used, and show acceptance to:

- a) Visual Inspection of Welds - MIL-STD-2035.
  - b) Dye Penetrant Testing - MIL-STD-2035.
- 4) Copies of current qualifications to NAVSEA T9074-AS-GIB-010/271 for personnel performing and evaluating the results of non-destructive test.
- 5) Copies of test reports showing the results of:
- a) Weight/Holding capacity test
- 6) The inspection records shall show the results of every dimension inspected and shall include the inspector's signature and date. The inspection records are to be maintained on Objective Quality Evidence Data Sheets (OQEDS) supplied by the contractor. Recording the results of dimensional inspections on a configuration facsimile of the component as shown on the applicable drawing is an acceptable OQED.
- a) ACTUAL measurements are required for the following characteristic:
    - (1) Dimensions with a tolerance of +/- .005 or less"
    - (2) Straightness of .010" per foot or less
    - (3) Geometric characteristics (forms, profile, orientation, location, run out, etc.) with a tolerance of .010" or less
    - (4) Finishes 32 or less.
    - (5) Angles +/- 1/2 degree or less
    - (6) Torque Records
  - b) Class 2 Threads shall be inspected in accordance with ASME B1.3, System 21 requirements and Class 3 threads or higher shall be inspected in accordance with ASME B1.3, System 22 requirements.
  - c) Sampling inspection is permitted under this contract. A sampling plan identifying the parts and the sample size must be submitted to NSWCCD-Phila code 9613 for approval prior to completion of inspection.
  - d) Complete inspection report showing the results of visually inspecting O-rings used in the assembly. This report shall have attached the individual O-ring

packages that the O-rings were supplied in and shall show the cure date of each O-ring.

- e) All of the supplied documents shall have complete traceability to the hardware for inspection purposes. Therefore, whenever applicable, records shall show: contract number, name of contractor, plan number, revision letter, piece number, serial letter/number of finished piece, and item nomenclature.
- f) Documented list of all material used in each finished and delivered assembly. A qualification summary sheet that will summarize and correlate all of the Objective Quality Evidence to support product quality. The contractor will supply certifications summary sheet blanks, used by the contractor.
- g) Records for each assembly, component, delivered item shall identify the inspection, measuring, test equipment, calibration dates and calibration due dates for inspection, measuring, and test equipment used during verifications, inspections, and/or tests.

#### 3.4 Mercury Exclusion Clause:

- a. Mercury Contamination: The supplies furnished under this contract shall contain no metallic or mercury compounds and shall be free from mercury contamination (i.e., during the manufacturing process, testing, or inspecting) or shall be on the List of Mercury-Containing Material/Equipment approved by NAVSEA, enclosure (1) of NAVSEAINST 5100.3C. Any material/ equipment so listed shall have label plates as prescribed in enclosure (3) of NAVSEAINST 5100. 3C. The supplies offered shall not have come in direct contact with mercury or any of its compounds nor with any mercury-containing device employing only a single boundary of containment. (A single boundary of containment is one, which is not backed by a seal or barrier.) Mercury contamination of the supplies will be cause for rejection of the material.
- b. If there is reasonable cause to suspect the supplies of being contaminated by mercury, the following test may be used to determine whether contamination by metallic mercury exists: Enclose the equipment in a polyethylene bag or close-fitting airtight container and place in an oven at 135 degrees F  $\pm$ 5 degrees F for one hour. Sample the trapped air and if mercury vapor concentration is 0.0 mg/cu meter or more, the material is mercury contaminated insofar as the requirements of this contract are concerned. Mercury vapor concentration can be determined with a mercury vapor detector such as a portable General Electric Vapor Detector (Catalog No. 8257557G-3), Bechman Instrument Model K-23, or other instruments that have equivalent range and capabilities. It should be noted that certain vapors such as benzene interfere with this type of mercury vapor detector and the detector should never be zero adjusted in any suspect atmosphere.

- c. If the inclusion of metallic mercury or mercury compounds is required as a functional part of the material furnished under this contract, the contractor shall obtain written approval from NAVSEA before proceeding with manufacture. The contractor's request shall explain in detail the requirement for mercury, identify specifically the parts to contain mercury, and explain the method of protection against mercury escape. Such a request will be forwarded to the Government Inspector or Government Representative with a copy to NAVSEA. Upon approval by NAVSEA, the vendor will provide a warning plate as prescribed by enclosure (2) of NAVSHIPSINST 5100.28 which will include a statement that mercury is a functional part of the item and also the name and location of that part.
- d. If and to the extent that this contract calls for work to be performed by the contractor on a submarine, the contractor, in connection with such work, shall not bring into or utilize in the submarine any instrument or other device containing metallic mercury or mercury compounds, unless such equipment, instrument, or device has been approved by the Naval Sea Systems Command or authorized representative for use on a submarine.
- e. The contractor is required to certify via a certificate of compliance that:
  - 1) The supplies furnished under this contract contain no metallic mercury or mercury compounds.
  - 2) The contractor has taken responsible steps to ensure that the supplies furnished under this contract are not contaminated with metallic mercury or mercury compounds.
- f. The requirements of this clause shall be included in all subcontracts hereunder. Technical question pertaining to the requirements of this clause shall be referred to NAVSEA via the Government Inspection or Representative.

### **3.5 Inspection and Test Requirements**

- a. The contractor is required to perform all inspections to ensure the quality of the finished item and for providing inspection and test equipment necessary to ensure that the results of inspections and tests are accurate.
- b. Representatives of an assigned Contract Administration Office (CAO) shall make inspection of the supplies and services to be furnished hereunder, at the contractor's or subcontractor's plant (source).
- c. Due to the critical nature of this material, a representative of NSWCCD, Code 9613, is available to furnish technical assistance on all quality control matters.

The contractor shall agree to notify the Naval Surface Warfare Center Carderock Division – Philadelphia Site, Naval Business Center, Bldg. 29, Phila., PA 19112-5083, Attn. Code 9613, when material is ready for inspection so NSWCCD has the option of conducting a quality assurance surveillance on the material at the contractor's plant prior to shipment. A minimum of seven (7) days is required to arrange such a visit.

- d. This contract shall not be considered complete unless all documents and items required to be delivered under this contract are received and determined to be acceptable by the contracting officer.
- e. Unless otherwise specified, the supplier is responsible for the performance of all inspection requirements as specified herein. The Government reserves the right to perform any of the inspections set forth in the above requirements where such inspections are deemed necessary to ensure that supplies and services conform to requirements.
- f. Requests for engineering changes, waivers, or deviations shall be submitted using Forms DD 1692 and 1694 and MIL-STD-973 as a guide. A "Request for Waiver" shall be used for government acceptance of all Type I and Type II nonconformance.
- g. Final acceptance will be performed by NSWCCD, Philadelphia. Final acceptance by NSWCCD does not relieve the supplier of performing final inspection and test and delivery of the material in accordance with description requirements.

#### **4.0 Packaging and Marking:**

- 4.1 All material to be delivered under this contract shall be packed in accordance with the latest edition of ASTM D3951-95 "Commercial Packaging of Supplies and Equipment", in effect on the date of contract award.
- 4.2 The contractor shall mark all shipments under this contract in accordance with the latest edition of ASTM D3951-90 "Commercial Packaging of Supplies and Equipment", in effect on the date of contract award.
- 4.3 The following markings shall be applied to the exterior of the shipping crates:
  - a. Contract Number
  - b. Drawing Number
  - c. Piece Number
  - d. Serial Number



**5.0 Time and Place of Delivery:**

5.1 Delivery of all items shall be within 180 days after date of order.

5.2 All items shall be delivered to the following address:

**NSWCCD-SSES  
Naval Business Center, Bldg. 542  
Philadelphia, PA 19112  
Attn: Code 9633**

# CONTRACT DATA REQUIREMENTS LIST

(2 Data Items)

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 220 hours per response, including the time for reviewing instructions searching existing data sources gathering and maintaining the data needed and completing the reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information including suggestions for reducing this burden, to Department of Defense, Washington DC, Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302 and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. Listed in Block E.

A. CONTRACT LINE ITEM NO.

B. EXHIBIT

C. CATEGORY:

TDP

TM

OTHER

D. SYSTEM/ITEM

E. CONTRACT/PR NO.

F. CONTRACTOR

1. DATA ITEM NO.

A001

2. TITLE OF DATA ITEM

Inspection System

3. SUBTITLE

QA Requirements

4. AUTHORITY (Date Acquisition Document No.)

5. CONTRACTING REFERENCE

6. REQUIRING OFFICE  
NSWCCD-SSES

7. DD 250 REQ

DD

9. DIST STATEMENT  
REQUIRED

10. FREQUENCY

One/R

12. DATE OF FIRST SUBMISSION

15 DAC

8. APP CODE

11. AS OF DATE

13. DATE OF SUBSEQUENT  
SUBMISSION

As Required

14. DISTRIBUTION

a. ADDRESSEE

b. COPIES

Drafts

Final

Reg

Repro

NSWCCD C/9613

1

16. REMARKS:

1. DATA ITEM NO.

A002

2. TITLE OF DATA ITEM

Inspection Records

3. SUBTITLE

4. AUTHORITY (Date Acquisition Document No.)

5. CONTRACTING REFERENCE

6. REQUIRING OFFICE  
NSWCCD-SSES

7. DD 250 REQ

9. DIST STATEMENT  
REQUIRED

10. FREQUENCY

As Required

12. DATE OF FIRST SUBMISSION

14. DISTRIBUTION

8. APP CODE

11. AS OF DATE

13. DATE OF SUBSEQUENT  
SUBMISSION

W/ Delivery of items

a. ADDRESSEE

b. COPIES

Drafts

Final

Reg

Repro

NSWCCD 9613

1

16. REMARKS:

Inspection records shall be submitted with the delivery of all items specified under this contract. Records shall be IAW all the Quality Assurance requirements specified in the SOW.

G. PREPARED BY:

J. Russell

H. DATE

6/25/03

I. APPROVED BY

P. Russell

J. DATE

6/24/03

# CONTRACT DATA REQUIREMENTS LIST

(2 Data Items)

Form Approved  
OMB No. 0704-0188

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A. CONTRACT LINE ITEM NO.

B. EXHIBIT

C. CATEGORY:

TDP

TM

OTHER

D. SYSTEM/ITEM  
UMM

E. CONTRACT/PR NO.

F. CONTRACTOR

1. DATA ITEM NO.

A003

2. TITLE OF DATA ITEM

Mercury Free Certification

3. SUBTITLE

4. AUTHORITY (Date Acquisition Document No.)

5. CONTRACTING REFERENCE

6. REQUIRING OFFICE  
NSWCCD-SSES

7. DD 250 REQ

LTR

9. DIST STATEMENT  
REQUIRED

10. FREQUENCY

As Required

12. DATE OF FIRST SUBMISSION

14. DISTRIBUTION

8. APP CODE

11. AS OF DATE

W/ Delivery of items

13. DATE OF SUBSEQUENT  
SUBMISSION

a. ADDRESSEE

b. COPIES

Drafts

Final

Reg

Repro

16. REMARKS:

The contractor shall provide a certificate of compliance that all material is mercury free.

NSWCCD C/9613

1

15. TOTAL

17. PRICE GROUP

18. ESTIMATED  
TOTAL PRICE

1. DATA ITEM NO.

A004

2. TITLE OF DATA ITEM

Welding and NDT Procedures and Qualifications

3. SUBTITLE

4. AUTHORITY (Date Acquisition Document No.)

5. CONTRACTING REFERENCE

6. REQUIRING OFFICE  
NSWCCD-SSES

7. DD 250 REQ

9. DIST STATEMENT  
REQUIRED

10. FREQUENCY

12. DATE OF FIRST SUBMISSION

14. DISTRIBUTION

8. APP CODE

11. AS OF DATE

W/ Delivery of items

13. DATE OF SUBSEQUENT  
SUBMISSION

a. ADDRESSEE

b. COPIES

Drafts

Final

Reg

Repro

16. REMARKS:

NSWCCD c/9613

1

15. TOTAL

1

17. PRICE GROUP

18. ESTIMATED  
TOTAL PRICE

G. PREPARED BY:

J. Russell

H. DATE

6/25/03

I. APPROVED BY

R. D. T.

J. DATE

6/26/03

# CONTRACT DATA REQUIREMENTS LIST

(2 Data Items)

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 220 hours per response, including the time for reviewing instructions searching existing data sources gathering and maintaining the data needed and completing the reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information including suggestions for reducing this burden, to Department of Defense, Washington DC, Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302 and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing contracting Officer for the Contract/PR No. Listed in Block E.

A. CONTRACT LINE ITEM NO.

B. EXHIBIT

C. CATEGORY:

TDP

TM

OTHER

D. SYSTEM/ITEM

E. CONTRACT/PR NO.

F. CONTRACTOR

1. DATA ITEM NO.

A005

2. TITLE OF DATA ITEM

Engineering Changes, Deviations/Waivers

3. SUBTITLE

4. AUTHORITY (Date Acquisition Document No.)

MIL-STD 973

5. CONTRACTING REFERENCE

6. REQUIRING OFFICE

NSWCCD-SSES

7. DD 250 REQ

LTR

9. DIST STATEMENT REQUIRED

10. FREQUENCY

As Required

12. DATE OF FIRST SUBMISSION

14. DISTRIBUTION

8. APP CODE

11. AS OF DATE

13. DATE OF SUBSEQUENT SUBMISSION

a. ADDRESSEE

b. COPIES

Drafts

Final

Reg

Repro

NSWCCD c/9613

1

16. REMARKS:

Requests for Engineering Changes, waivers or deviations shall be submitted IAW MIL-STD 973, utilizing forms 1692 and 1694, as applicable, for all Type I and Type II nonconformance.

17. PRICE GROUP

18. ESTIMATED TOTAL PRICE

1. DATA ITEM NO.

2. TITLE OF DATA ITEM

3. SUBTITLE

4. AUTHORITY (Date Acquisition Document No.)

5. CONTRACTING REFERENCE

6. REQUIRING OFFICE

7. DD 250 REQ

9. DIST STATEMENT REQUIRED

10. FREQUENCY

12. DATE OF FIRST SUBMISSION

14. DISTRIBUTION

8. APP CODE

11. AS OF DATE

13. DATE OF SUBSEQUENT SUBMISSION

a. ADDRESSEE

b. COPIES

Drafts

Final

Reg

Repro

16. REMARKS:

15. TOTAL

G. PREPARED BY:

H. DATE

6/25/03

I. APPROVED BY

R. D. T. m

J. DATE

6/26/03





DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY:  
ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PMS401.

PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE 53711		PL 7377879	REV A
PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE 53711		SHEET 2 OF 2 SHEETS	DATE 07/25/02
ITEM NO. (FIND)	PART NO. OR IDENTIFICATION	CAGE CODE	QTY REQD	DESCRIPTION	DOCUMENT NO. OR REFERENCE	MATERIAL	
1	7377879-1	53711	1 EA	ASSEMBLY	7377879	ASTM A 269	
2	7377879-2	53711	1 EA	TUBE .75 OD X .120 WALL	7377879	304 STAINLESS STEEL	
3	7377879-3	53711	1EA	BASE	7377879	ASTM A 276 , UNS 30400 (TP 304)	
4	7377879-4	53711	2EA	PIN	7377879	ASTM A 276, UNS 30400 (TP 304)	
5	7377879-5	53711	1EA	HANDLE	7377879	ASTM A 276, UNS 30400 (TP) 304)	

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PARTS LIST	DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160	CAGE CODE	PL 7377879	REV	A
			53711	SHEET 1 OF 2 SHEETS	DATE 07/25/02

LIST TITLE

## SPECIAL FACE SPANNER WRENCH ASSEMBLY AND DETAILS

LTR	SHEET NO.	REVISION DESCRIPTION	DATE	APPROVED
A	ALL	PRODUCTION RELEASE	07/25/02	ED

REVISION STATUS OF EACH PL SHEET

[illegible]





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PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE 53711	PL 7377886	REV A
PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE 53711	SHEET 2 OF 2 SHEETS	DATE 07/25/02
ITEM NO. (FIND)	PART NO. OR IDENTIFICATION	CAGE CODE	QTY REQD	DESCRIPTION	DOCUMENT NO. OR REFERENCE	MATERIAL
1	7377886-1	53711	1 EA	ASSEMBLY	7377886	
2	7377886-2	53711	1 EA	TUBE 1.25 OD X 0.25 WALL	7377886	ASTM A 269 304 STAINLESS STEEL
3	7377886-3	53711	1EA	SOCKET	7377886	ASTM A 27, UNS 30400 (TP 304)
4	7377886-4	53711	1EA	HANDLE	7377886	ASTM A 276, UNS 30400 (TP 304)

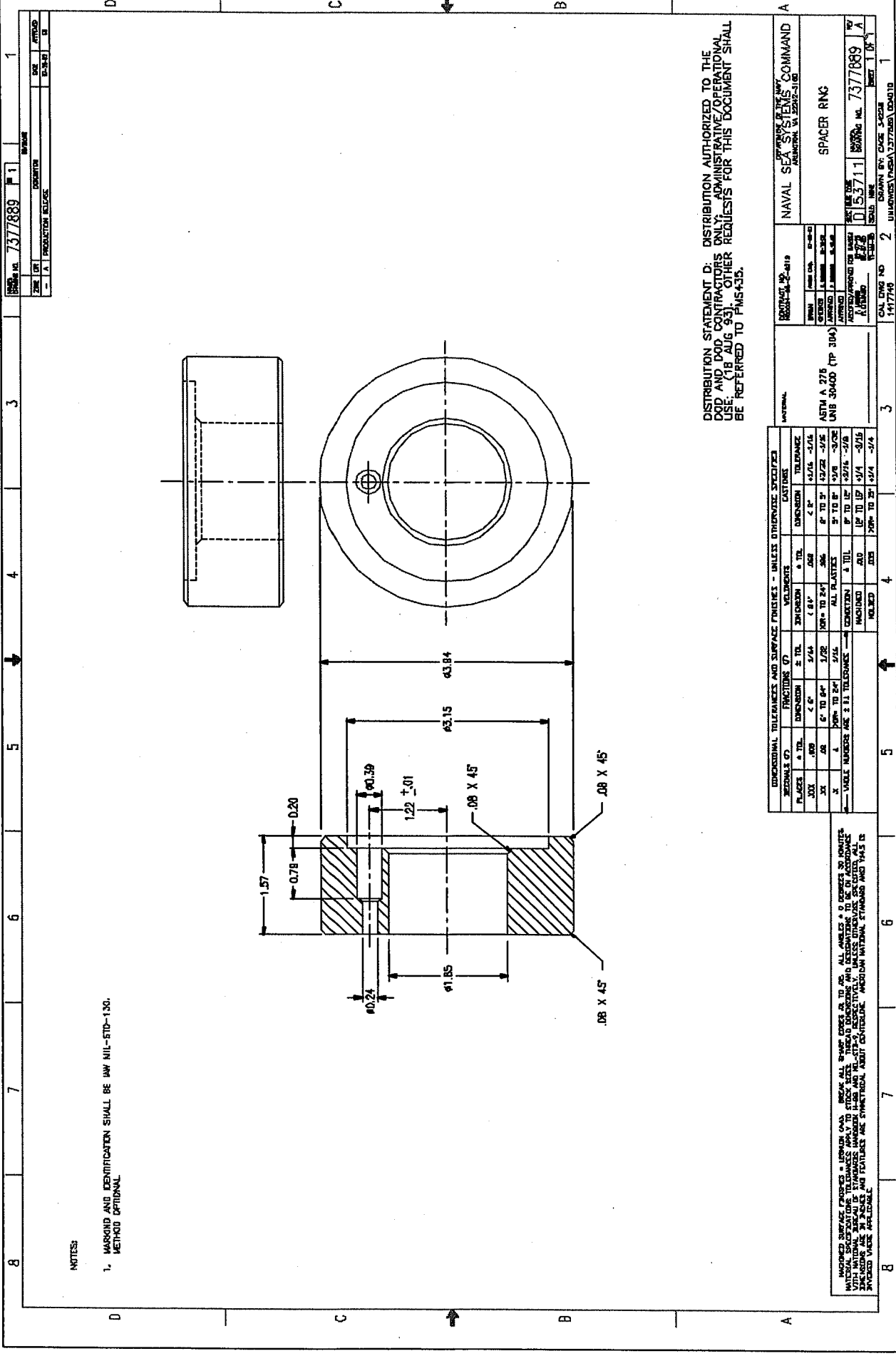
**DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY; ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PMS401.**

PARTS LIST	DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160	CAGE CODE	PL 7377886	REV	A
		53711	SHEET 1 OF 2 SHEETS	DATE	07/25/02

**LIST TITLE**  
**T-HANDLE BOX WRENCH ASSEMBLY AND DETAILS**

LTR	SHEET NO.	REVISION DESCRIPTION	DATE	APPROVED
A	ALL	PRODUCTION RELEASE	07/25/02	ED

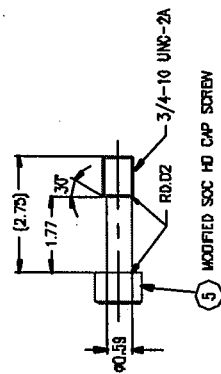
[illegible]



1. MARKING AND IDENTIFICATION SHALL BE IN ACCORDANCE WITH ASTM A133.

[illegible]

△ USING ITEM 6 AS A TEMPLATE, DRILL (2) HOLES USING DRILL SIZE #44 (NO.086) FOR ITEM 7. ATTACH ITEM 8 TO ITEM 2 WITH ITEM 7.



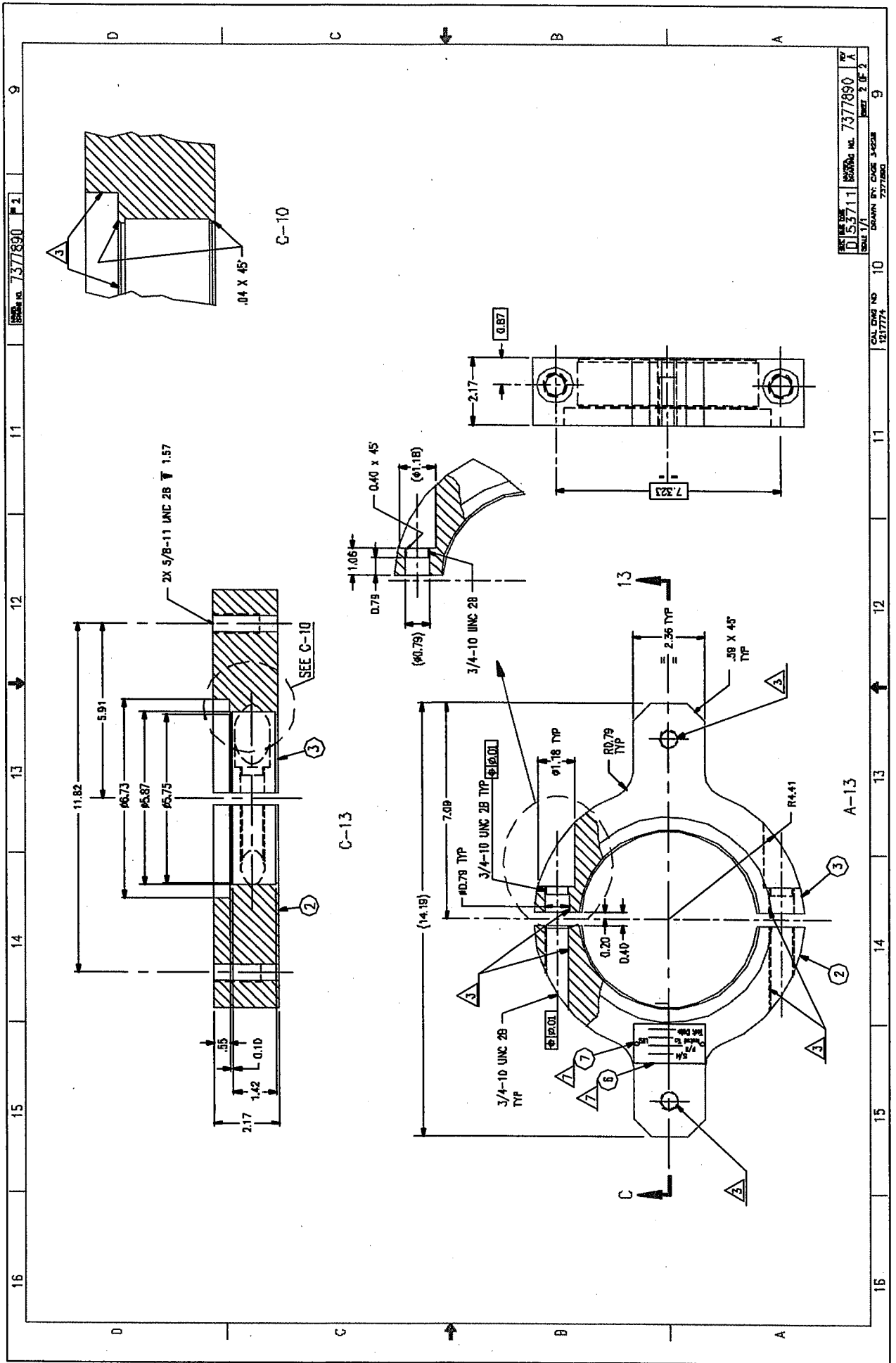
A-5

SEE SEPARATE PARTS LIST

[illegible]

A-7

MODERN SURFACE FINISHES - LEXINGTON OAK BREAK ALL 3-HOUR ZONES IN TO ALL ANGLES & 0 DEGREES TO 90 MINUTES  
INTERFERENCE TOLERANCES APPLY TO STOCK SIZE. THREAD DIMENSIONS AND DIMENSIONS TO BE IN ACCORDANCE  
WITH NATIONAL BUREAU OF STANDARDS HANDBOOK 14-50 AND REL-27, RESPECTIVELY. ALL DIMENSIONS  
UNLESS OTHERWISE SPECIFIED.  
THESE DIMENSIONS ARE IN INCHES AND FEET/INCHES ARE SYMMETRICAL ABOUT CENTERLINE. MODERN NATIONAL STANDARD AND 14-5.12  
APPROVED VANCE PATENTABLE.



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PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE	PL 7377890	REV	A
PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		53711	SHEET 2 OF 2 SHEETS	DATE	07/25/02
ITEM NO. (FIND)	PART NO. OR IDENTIFICATION	CAGE CODE	QTY REQD	DESCRIPTION	DOCUMENT NO. OR REFERENCE	MATERIAL	
1	7377890-1	53711	1 EA	ASSEMBLY, LIFTING CLAMP	7377890	ASTM A 588	
2	7377890-2	53711	1 EA	CLAMP HALF, LIFTING ALLOY STEEL	7377890	ASTM A 588	
3	7377890-3	53711	1EA	CLAMP HALF, LIFTING ALLOY STEEL	7377890	ASTM D1418-85 IAW ASTM D2000	
4	7377890-4	53711	2EA	SPACER, NEOPRENE TOTAL LENGTH 8.66	7377890	ASTM A 320/320M, CL 2, B8M	
5	7377890-5	53711	2 EA	SCR, SOC HD CAP 3/4-10 UNC-2A X 2.75 L (MODIFIED)	7377890	UMM SPECIAL TOOL ID PLATE	
6	7377890-6	53711	1 EA	ID PLATE	7535160	304 STAINLESS STEEL	
7	7377890-7	53711	2 EA	DRIVE SCREW, ROUND HEAD #2 X .187L	7377890	"BOSTIK" OR EQUIVALENT	
8	7377890-8	53711	AR	ADHESIVE	7377890	CARR LANE 4000-SHR-3 OR EQUAL	
9	7377890-9	53711	2EA	SWIVEL EYE BOLT 5/8-11 UNC-2A	7377890	MOLYKOTE P-37 OR EQUIVALENT	
10	7377890-10	53711	AR	ANTI-SEIZE COMPOUND	7377890		

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ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PWS401.

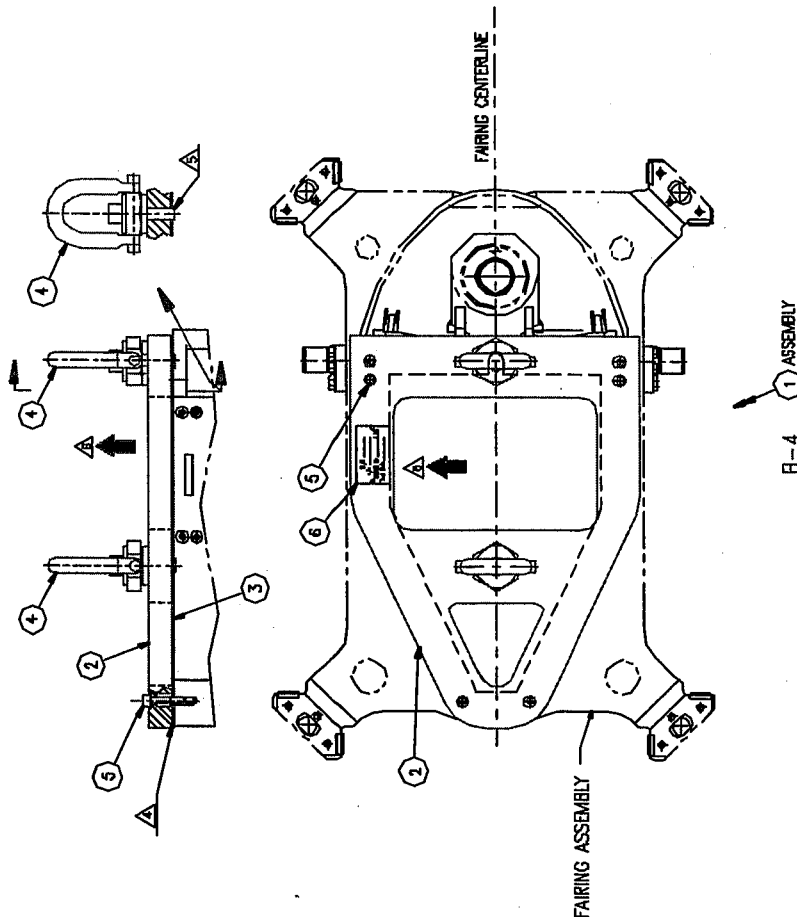
PARTS LIST	DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160	CAGE CODE	PL 7377890	REV	A
		53711	SHEET 1 OF 2 SHEETS		
		DATE			07/25/02

**LIST TITLE**  
**HOIST CYLINDER LIFTING TOOL ASSEMBLY AND DETAILS**

LTR	SHEET NO.	REVISION DESCRIPTION	DATE	APPROVED
A	ALL	PRODUCTION RELEASE	07/25/02	ED

[illegible]





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SEE SEPARATE PARTS LIST

[illegible]

BRANCH NO. 0-1215 DIVISION NO. 0-1215 SECTION NO. 0-1215 SUBSECTION NO. 0-1215 ADDRESS/PHONE NO. 0-1215		NAVAL SEA SYSTEMS COMMAND DEPARTMENT OF THE NAVY WASHINGTON, DC 20372-1100	
MAST FIRING LIFTING TOOL ASSEMBLY AND DETAILS		SEC. FILE NO. 0-1215 PROJECT NO. 7377883 DATE 10-1-82	
COUNTRY OF ORIGIN 0-1215 DATE OF ORIGIN 0-1215 TYPE OF ORIGIN 0-1215 NAME OF ORIGIN 0-1215 ADDRESS/PHONE NO. 0-1215		COUNTRY OF ORIGIN 0-1215 DATE OF ORIGIN 0-1215 TYPE OF ORIGIN 0-1215 NAME OF ORIGIN 0-1215 ADDRESS/PHONE NO. 0-1215	

MODERN SCIENCE FINCHES - LONDON 043. BREAK ALL SHAP CODES AS TO AGE. ALL ANGLES 90 DEGREES 30 MINUTES. NATIONAL SPECIFICATION TOLERANCES APPLY TO STOCK LENGTHS. HEAD DIMENSIONS AND LIMITS TO BE ACCORDANCE WITH NATIONAL BUREAU OF STANDARDS HANDBOOK H-40 AND H-41-1/2, RESPECTIVELY. ALL DIMENSIONS ARE IN INCHES. HEAD AND FEATHERS ARE SYMMETRICAL ABOUT CENTRAL LINE. NATIONAL STANDARD AND YALE IS UNIFORM VARIATION AVAILABLE.



DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY;  
ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PMS401.

PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE	PL 7377883	REV	A
				53711	SHEET 2 OF 2 SHEETS	DATE	07/25/02
ITEM NO. (FIND)	PART NO. OR IDENTIFICATION	CAGE CODE	QTY REQD	DESCRIPTION	DOCUMENT NO. OR REFERENCE	MATERIAL	
1	7377883-1	53711	1 EA	ASSEMBLY	7377883	ASTM 588	
2	7377883-2	53711	1 EA	PLATE, LIFTING (ALOY STEEL)	7377883	ASTM D1418-85 IAW ASTM	
3	7377883-3	53711	1EA	SPACER, NEOPRENE	7377883	D2000	
4	7377883-4	53711	2EA	SWIVEL EYE BOLT 5/8-11 UNC-2A	7377883	CARR LANE 4000-SHR-3 OR EQUAL	
5	7377883-5	53711	6EA	SCR, SCH HD CAP 3/8-16 UNC-2A X 1.75L (MODIFIED SCREW) SEE DETAIL D-12	7377883	ASTM A 320/320M, CL 2, B8M	
6	7377883-6	53711	1EA	ID PLATE (AL)	7535160	UMM SPECIAL TOOL ID PLATE	
7	7377883-7	53711	2EA	DRIVE SCREW, ROUND HEAD #2 X .187L	7377883	304 STAINLESS STEEL	
8	7377883-8	53711	AR	ADHESIVE	7377883	"BOSTIK" OR EQUIVALENT	
9	7377883-9	53711	AR	ANTI-SEIZE COMPOUND	7377883	MOLYKOTE P-37 OR EQUIVALENT	

DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY; ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PMS401.

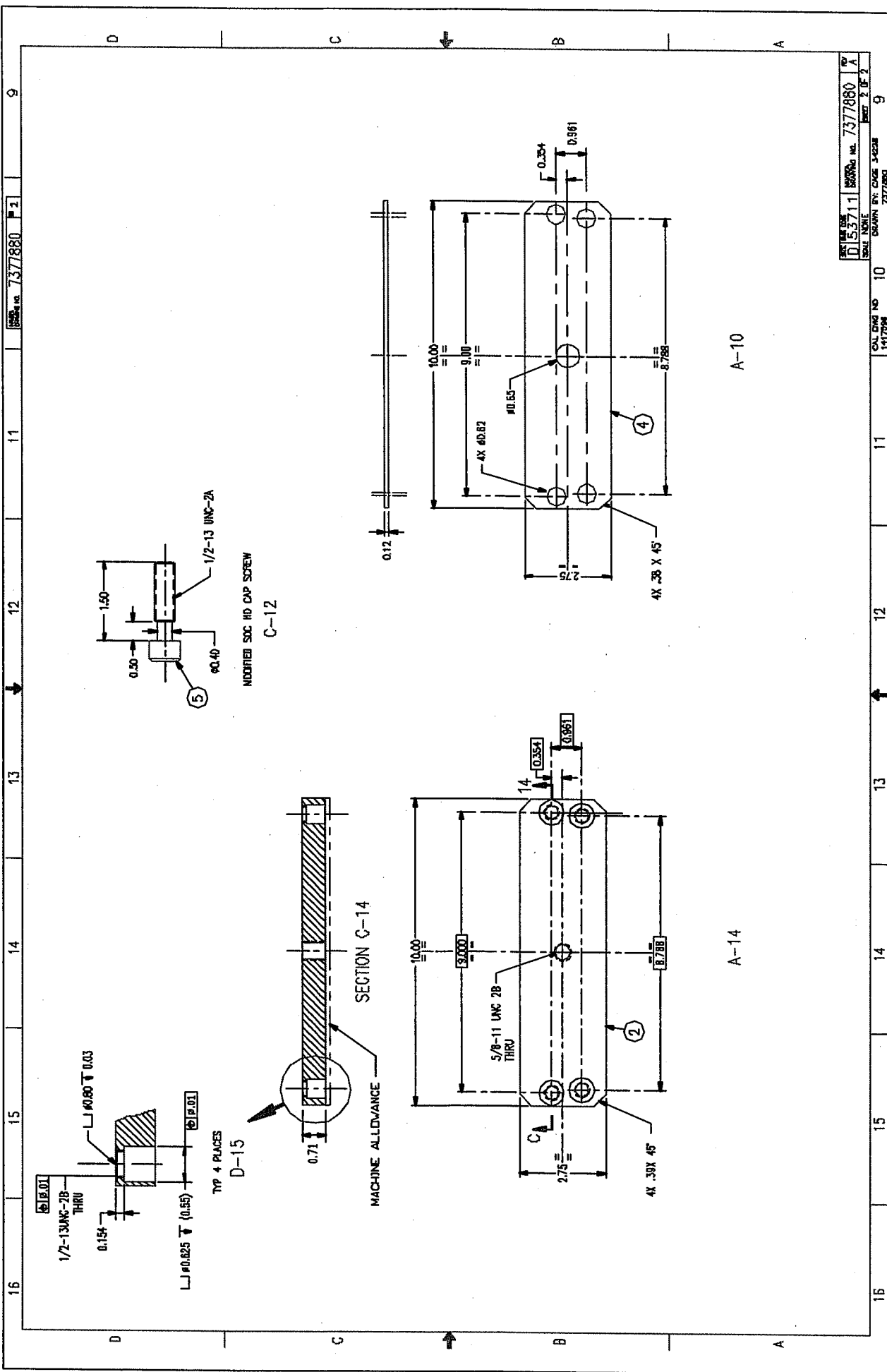
PARTS LIST	DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160	CAGE CODE	PL 7377883	REV	A
		53711	SHEET 1 OF 2 SHEETS	DATE	07/25/02

LIST TITLE
MAST FAIRING LIFTING TOOL ASSEMBLY AND DETAILS

LTR	SHEET NO.	REVISION DESCRIPTION	DATE	APPROVED
A	ALL	PRODUCTION RELEASE	07/25/02	ED

[illegible]

MODIFIED SURFACE FINISHES = LUMEN (44) BREAK ALL SHARP EDGES IN TO ALL ANGLES + 0 REDUCES 30 MINUTES  
INTERNAL SPECIFICATIONS TO DIMENSIONS APPLY TO STOCK SIZES THREAD DIMENSIONS AND DIMENSIONS TO BE IN ACCORDANCE  
WITH NATIONAL BUREAU OF STANDARDS HANDBOOK 1 AND MIL-STD-883C, RESPECTIVELY. UNLESS OTHERWISE SPECIFIED, ALL  
DIMENSIONS ARE IN INCHES AND FEATURES ARE SYMMETRICAL ABOUT CENTERLINE. AMERICAN NATIONAL STANDARD AND MIL-STD-15 IS  
THE METHOD USED FOR ALL DIMENSIONS.



DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY;  
ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PMS401.

PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE 53711	PL 7377880	REV A
PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE 53711	SHEET 2 OF 2 SHEETS	DATE 07/25/02
ITEM NO. (FIND)	PART NO. OR IDENTIFICATION	CAGE CODE	QTY REQD	DESCRIPTION	DOCUMENT NO. OR REFERENCE	MATERIAL
1	7377880-1	53711	1 EA	ASSEMBLY	7377880	ASTM A 588
2	7377880-2	53711	1 EA	PLATE (ALLOY STEEL)	7377880	CARR LANE 4000-SHR-3 OR EQUIV.
3	7377880-3	53711	1EA	SWIVEL EYEBOLT 5/8-11 UNC-2A	7377880	ASTM D1418-85 IAW ASTM D2000
4	7377880-4	53711	1EA	SPACER NEOPRENE	7377880	ASTM A 320/320M, CL 2, B8M
5	7377880-5	53711	4EA	SCR, SOC HD CAP 1/2-13 UNC-2A X 1.5L (MODIFIED SCREW) SEE ZONE C-12	7377880	UMM SPECIAL TOOL ID PLATE
6	7377880-6	53711	1EA	ID PLATE	7535160	304 STAINLESS STEEL
7	7377880-7	53711	2EA	DRIVE SCREW, ROUND HEAD #2 X .187L	7377880	"BOSTIK" OR EQUIVALENT
8	7377880-8	53711	AR	ADHESIVE	7377880	MOLYKOTE P-37 OR EQUIVALENT
9	7377880-9	53711	AR	ANTI-SEIZE COMPOUND	7377880	

**DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY; ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PMS401.**

PARTS LIST	DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160	CAGE CODE	PL 7377880	REV	A
		53711	SHEET 1 OF 2 SHEETS	DATE	07/25/02

**LIST TITLE**  
**INTERNAL BEARING LIFTING TOOL ASSEMBLY AND DETAILS**

LTR	SHEET NO.	REVISION DESCRIPTION	DATE	APPROVED
A	ALL	PRODUCTION RELEASE	07/25/02	ED

[illegible]



SEE SEPARATE PARTS LIST

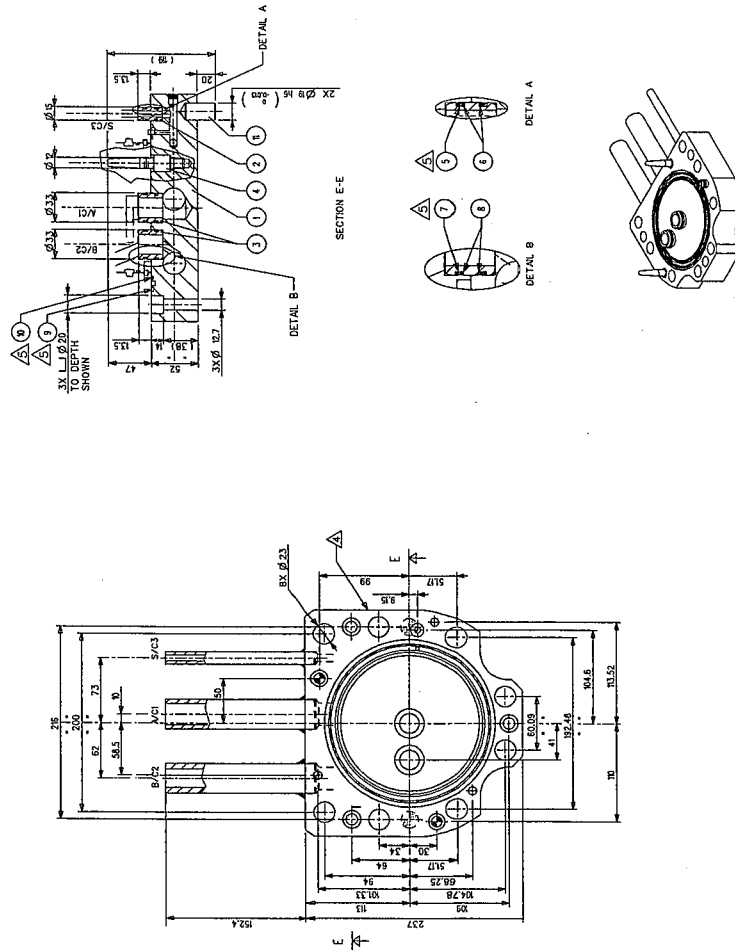
CONTRACT NO. N00024-95-C-8212	DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND
----------------------------------	-----------------------------------------------------

HYDRAULIC ADAPTER ASSY

APPROVED	D. BAKER	02-25-02
ACCEPTED/APPROVED FOR NAVSEA		
P. LARSON		
P. DIAMANTO		
SIZE	EASE CODE	NAVSEA DRAWING NO.
11	53711	7225784
SCALE 1/2		SHEET 1 OF 1

DRAWN BY: CAGE 342287  
INJOWCS\HAA\7225784\00401F

1. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE REFERENCE
2. PAINT LAW TECHNICAL SPECIFICATION 7225759 DO NOT PAINT MECHANICAL INTERFACES
3. APPLY A THIN LAYER OF MIL-G-24139 (NATO CODE) G-4500 GREASE TO ALL MATING SURFACES
4. PERMANENTLY MARK THE FOLLOWING INFORMATION:  
MFR-(AGE CODE)  
SERIAL-7225759-(REV LTR)  
SERNO XXXX-X
5. BEFORE ASSEMBLY, LUBRICATE ITEMS 5, 7, 9 AND GESSO NUTTO-321 JAW MIL-H-17672 D-2075-F-H
6. CLEAN AND FLUX LAW TECHNICAL SPECIFICATION 7225759
7. WEIGHT APPROX. -18KG (THEORETICAL)



DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY;  
ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PMS401.

PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE	PL 7225784	REV	A
PARTS LIST		NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		53711	SHEET 2 OF 2 SHEETS	DATE	00/02/02
ITEM NO. (FIND)	PART NO. OR IDENTIFICATION	CAGE CODE	QTY REQD	DESCRIPTION	DOCUMENT NO. OR REFERENCE	REF DES	
1	7225849	53711	1 EA	ADAPTER BODY	7225849		
2	7225892	53711	1 EA	CONNECTOR TUBE	7225892		
3	7225891	53711	2 EA	CONNECTOR TUBE	7225891		
4	7225897	53711	2 EA	PIN	7225897		
5	2-111 N674-70	02697	2 EA	O-RING			
6	8-111 N300-90	02697	2 EA	BACK UP RING			
7	2-122 N674-70	02697	4 EA	O-RING			
8	8-122 N300-90	02697	4 EA	BACK UP RING			
9	2-262 N674-70	02697	1 EA	O-RING			
10	2-163 N674-70	02697	1 EA	O-RING			
11	7377507	53711	2 EA	PIN	7377507		

DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY; ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PWS401.

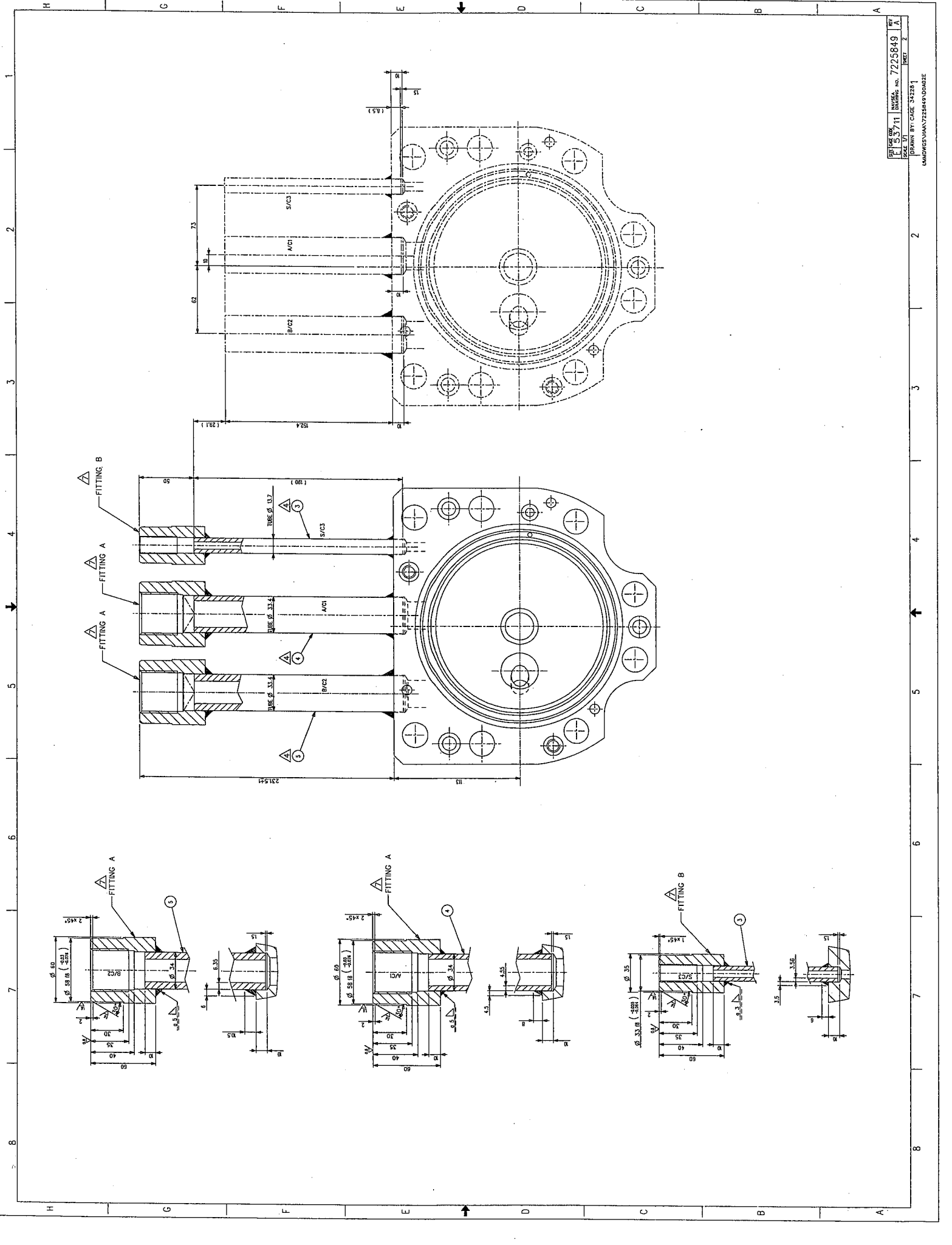
PARTS LIST	DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160	CAGE CODE	PL 7225784	REV	A
		53711	SHEET 1 OF 2 SHEETS	DATE	00/02/02

LIST TITLE  
HYDRAULIC ADAPTER ASSY

LTR	SHEET NO.	REVISION DESCRIPTION	DATE	APPROVED
A	ALL	PRODUCTION RELEASE	00/02/02	MRF

[illegible]





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PARTS LIST		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160		CAGE CODE 53711	PL 7225849 SHEET 2 OF 2 SHEETS	REV A DATE 00/02/02
ITEM NO. (FIND)	PART NO. OR IDENTIFICATION	CAGE CODE	QTY REQD	DESCRIPTION	DOCUMENT NO. OR REFERENCE	REF DES
1	7377812	53711	1 EA	ADAPTER	7377812	
2	7225849-1	53711	1 EA	PLUG	7225849	
3	7225849-2	53711	1 EA	TUBE	7225849	
4	7225849-3	53711	1 EA	TUBE	7225849	
5	7225849-4	53711	1 EA	TUBE	7225849	

DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY;  
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PARTS LIST

DEPARTMENT OF THE NAVY  
NAVAL SEA SYSTEMS COMMAND  
ARLINGTON, VA 22242-5160

CAGE CODE  
53711

PL 7225849  
SHEET 1 OF 2 SHEETS

REV A  
DATE 00/02/02

LIST TITLE  
ADAPTER BODY

LTR	SHEET NO.	REVISION DESCRIPTION	DATE	APPROVED
A	ALL	PRODUCTION RELEASE	00/02/02	MRF

1  
A

2  
A

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A

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A

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35  
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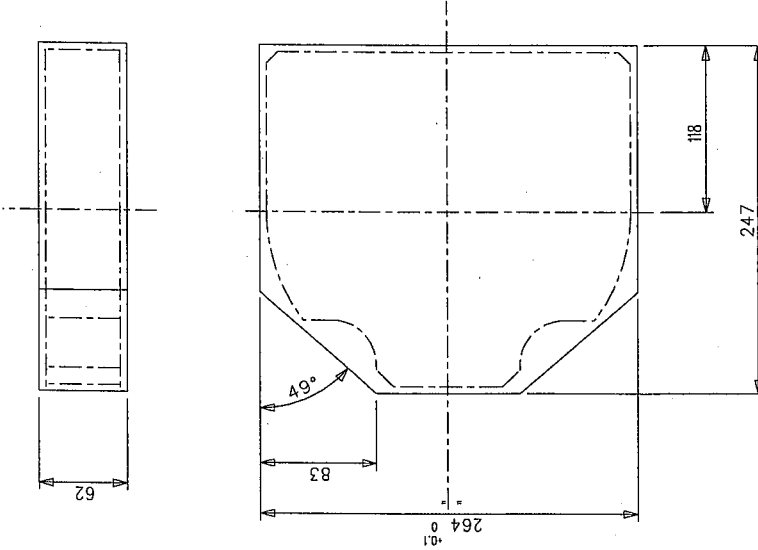
METRIC

(UMMDWGS\HAA\7377812\DOC01C)

2 CAL DWG NO  
1G15655

3

ALTERNATE MAT'L: UNS S32750  
ASTM A240, PLATE 60mm THK,  
SOLUTION HEAT TREATMENT,  
NOTE 5 DOES NOT APPLY

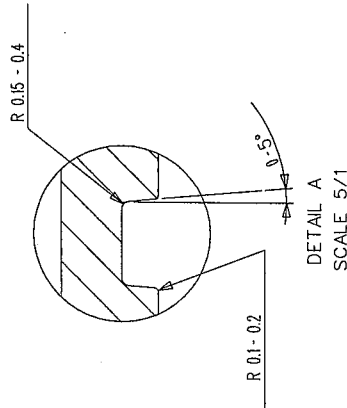
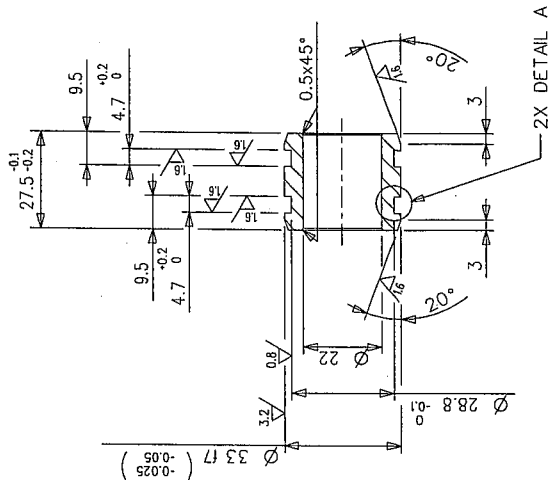


.../UNNDWGS/haa/7377812/D0C01C.DGN Mar. 28, 2002 14:06:00



NOTES:

1. MARK ITEM IDENTIFICATION IAW MIL-STD-130, METHOD OPTIONAL



DETAIL A  
SCALE 5/1

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS. SURFACE ROUGHNESS 12.5 MICROMETERS			
UNLESS OTHERWISE SPECIFIED, DIMENSIONAL TOLERANCES IAW ISO 2768-1, CLASS m			
DIM RANGE	0.5-6	6-30	30-120
TOLERANCE	±0.1	±0.2	±0.3
ANGLES	10-10	10-50	50-120
SHORT SIDE DIMENSIONS	10-10	10-50	50-120
CHAMFERS	0.1-0.3x45°	0.1-0.3x45°	0.1-0.3x45°

MATERIAL  
UNS C63000  
TEMPER TQ50  
ASTM B150 OR B150M

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS. SURFACE ROUGHNESS 12.5 MICROMETERS			
UNLESS OTHERWISE SPECIFIED, DIMENSIONAL TOLERANCES IAW ISO 2768-1, CLASS m			
DIM RANGE	0.5-6	6-30	30-120
TOLERANCE	±0.1	±0.2	±0.3
ANGLES	10-10	10-50	50-120
SHORT SIDE DIMENSIONS	10-10	10-50	50-120
CHAMFERS	0.1-0.3x45°	0.1-0.3x45°	0.1-0.3x45°

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS. SURFACE ROUGHNESS 12.5 MICROMETERS			
UNLESS OTHERWISE SPECIFIED, DIMENSIONAL TOLERANCES IAW ISO 2768-1, CLASS m			
DIM RANGE	0.5-6	6-30	30-120
TOLERANCE	±0.1	±0.2	±0.3
ANGLES	10-10	10-50	50-120
SHORT SIDE DIMENSIONS	10-10	10-50	50-120
CHAMFERS	0.1-0.3x45°	0.1-0.3x45°	0.1-0.3x45°

CONTRACT NO.  
N00024-95-C-6212

DRAWN  
CORCORAN 99-07-27

CHECKED  
R. GARVER 00-09-28

APPROVED  
M. FIDENEVEZ 00-02-02

APPROVED  
D. DIAMUN 00-02-02

ACCEPTED FOR NAVSEA  
C. 53711 00-02-04

P. DIABATO 00-02-04

DEPARTMENT OF THE NAVY  
NAVAL SEA SYSTEMS COMMAND  
ARLINGTON, VA 22242-5160

CONNECTOR TUBE

SIZE (CAGE CODE)  
C 53711

NAVSEA DRAWING NO. 7225891

REV A

SHEET 10F 1

DRAWN BY: CAGE 34228 1

UNMDWGS\HAA\7225891\DDA01C

NAVSEA DRAWING NO. 7225891

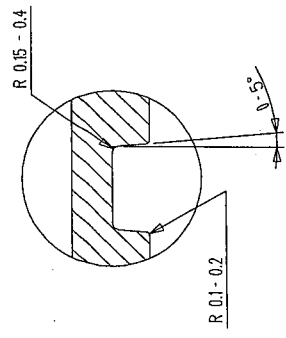
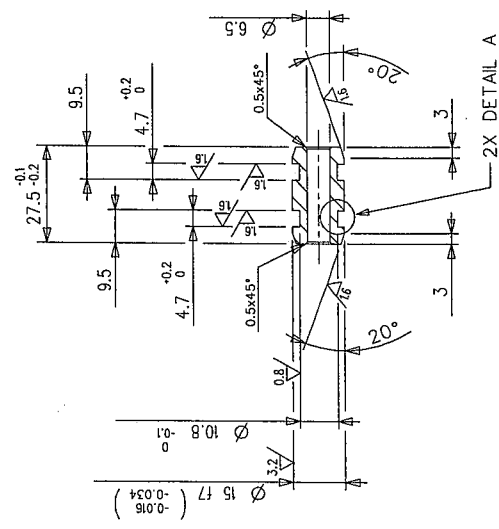
SH 1

METRIC

DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY; ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PMS401.

4 3 2 1

NOTES:  
1. MARK ITEM IDENTIFICATION IAW  
MIL-STD-130, METHOD OPTIONAL



METRIC

DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE  
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USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL  
BE REFERRED TO PMS401.

REVISIONS		
ZONE	LTR	DESCRIPTION
-	A	PRODUCTION RELEASE
		DATE
		00-02-02
		APPROVED
		MF

NAVSEA  
DRAWING NO. 7225892

CONTRACT NO. N00024-95-C-8212		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160	
DRAWN C. C. C. 98-07-27	CHECKED R. CARVER 00-01-28	CONNECTOR TUBE	
APPROVED M. F. 00-02-02	APPROVED D. D. 00-02-02	SIZE C 53711	REV A
ACCEPTED FOR NAVSEA P. 00-02-04		SCALE 1/1	SHEET 1 OF 1

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS. SURFACE ROUGHNESS 12.5 MICROMETERS									
UNLESS OTHERWISE SPECIFIED, DIMENSIONAL TOLERANCES IAW ISO 2768-1, CLASS m				ANGLES					
DIM RANGE				SHORT SIDE DIMENSIONS					
TOLERANCE				CHAMFERS					
0.5-6	6-30	30-120	120-400	10-10	10-30	30-120	120-400	400	0.1-0.3x45°
±0.1	±0.2	±0.3	±0.5	±1°	±1°	±1°	±1°	±1°	±1°
NEXT ASSY									

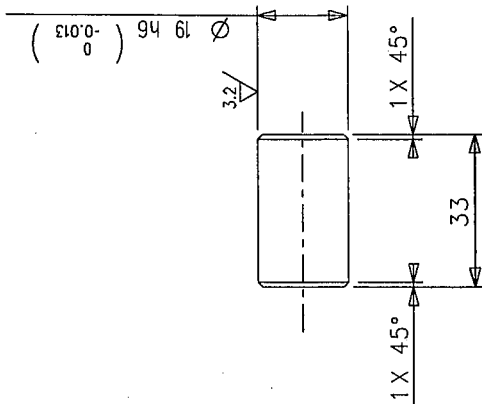
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DRAWN BY: CAGE 34228  
JUMMDWGS\HAA\7225897\DOA01B

NAVSEA  
DRAWING NO. 7377507 SH 1

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE
-	A	PRODUCTION RELEASE	00-02-02
			APPROVED
			MF

NOTES:  
1. MARK ITEM IDENTIFICATION IAW  
MIL-STD-130, METHOD OPTIONAL



METRIC

DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE  
DOD AND DOD CONTRACTORS ONLY; ADMINISTRATIVE/OPERATIONAL  
USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL  
BE REFERRED TO PMS401.

NEXT ASSY

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS.  
SURFACE ROUGHNESS 12.5/MICROMETERS

UNLESS OTHERWISE SPECIFIED, DIMENSIONAL TOLERANCES IAW ISO 2768-1, CLASS m			
DIM	RANGE	TOLERANCE	ANGLE
TOLERANCE	0.5-6	±0.1	±0.2
	6-30	±0.2	±0.3
SHORT SIDE DIMENSIONS	10-50	±0.1	±0.2
	50-120	±0.2	±0.3
THREAD	10-50	±0.1	±0.2
	50-120	±0.2	±0.3
CHAMFERS	10-50	±0.1	±0.2
	50-120	±0.2	±0.3

CONTRACT NO.  
N00024-95-C-6212

DRAWN	CORCORAN-99-07-27
CHECKED	R. GARVER 00-01-28
APPROVED	M. FIDENEVEZ 00-02-02
APPROVED	D. DUDMAN 00-02-02
ACCEPTED/APPROVED FOR NAVSEA P. LAWSON 00-02-09 P. DITARANTO 00-02-04	
YY-MM-DD	

MATERIAL  
UNS N05500  
PRECIPITATION  
HEAT TREATED  
AMS 4676

DEPARTMENT OF THE NAVY  
NAVAL SEA SYSTEMS COMMAND  
ARLINGTON, VA 22242-5160

PIN

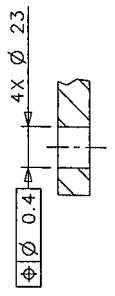
SIZE	CAGE CODE	NAVSEA DRAWING NO.	REV
B	53711	7377507	A
SCALE 1/1		SHEET 1 OF 1	

CAL DWG NO  
1417512  
DRAWN BY: CAGE 34228  
UMMDWGS\HAA\7377507\DOA01B

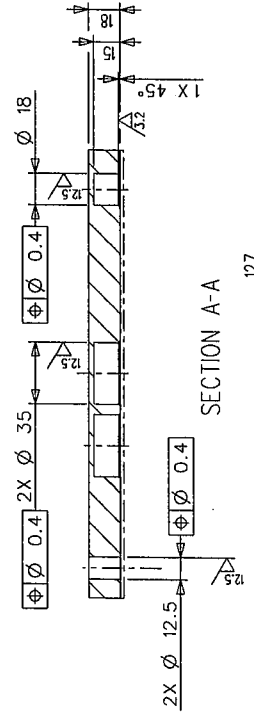
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NOTES:

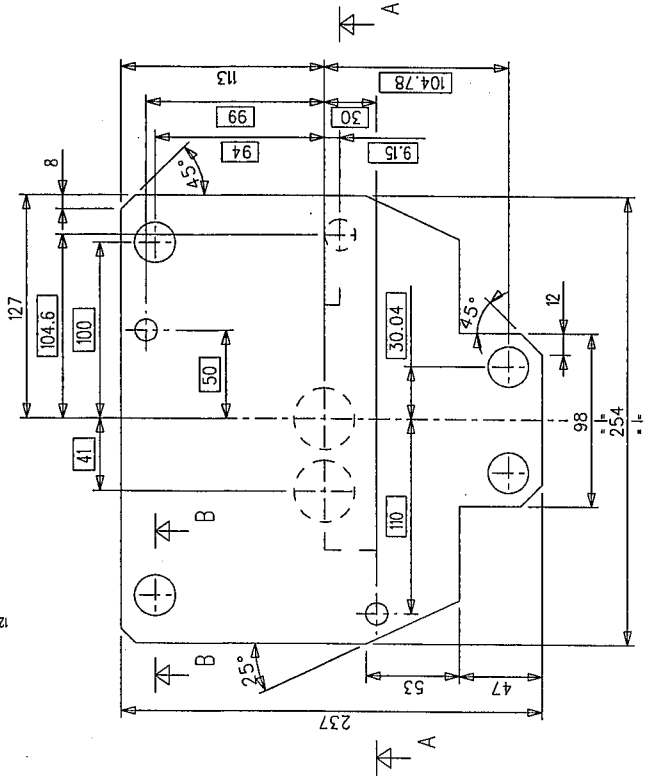
1. MARK ITEM IDENTIFICATION IAW MIL-STD-130, METHOD OPTIONAL



SECTION B-B



SECTION A-A



METRIC

DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE DOD AND DOD CONTRACTORS ONLY; ADMINISTRATIVE/OPERATIONAL USE; (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO PMS401.

NAVSEA DRAWING NO. 7377736

SH 1

CONTRACT NO. N00024-95-C-5212

DEPARTMENT OF THE NAVY  
NAVAL SEA SYSTEMS COMMAND  
ARLINGTON, VA 22242-5180

DRAWN	W. BATH 00/05/19
CHECKED	R. CARVER 00/05/19
APPROVED	M. FODENKOV 00/05/21
APPROVED	D. DABIAN 00/05/21
ACCEPTED/PROVED FOR NAVSEA	P. LAWSON 00/05/28
P. DITRANTO	00/05/23
TT-MP-00	11-MP-00

MATERIAL	DELIN 150 DUPONT
SIZE	CAGE CODE C 53711
NAVSEA DRAWING NO.	7377736
REV	A
SCALE	1/2
SHEET	1 OF 1

	5 m	ANGLES				THREAD 6H 5g	CHAMFERS 0.1-0.3x45°
		ANGLE DIMENSIONS					
		50-120	120-400	400			
		±20°	±10°	±5°			

THREAD	1/4-20
CHAMFERS	1/16-0.0315
CHAMFERS	1/16-0.0315
CHAMFERS	1/16-0.0315

UNLESS SPECIFIED, ALL DIMENSIONS						
UNLESS SPECIFIED, DIMENSIONAL TOL						
>6-30	>30-120	>120-400	>400-1000	>		
±0.2	±0.3	±0.5	±0.8			

	UNLESS OTHERWISE SPECIFIED
	UNLESS OTHERWISE SPECIFIED
	DIM RANGE 0.5-6
	TOLERANCE ±0.1
NEXT ASSY	

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS.							
UNLESS OTHERWISE SPECIFIED, DIMENSIONAL TOLERANCES IAW ISO 2768-1, CLASS m							
DIM RANGE	0.5-6	6-30	30-120	120-400	400-1000	1000-2000	2000-4000
TOLERANCE	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2

DRAWN BY: CAGE 34228 1

CAL DWG NO 1417803

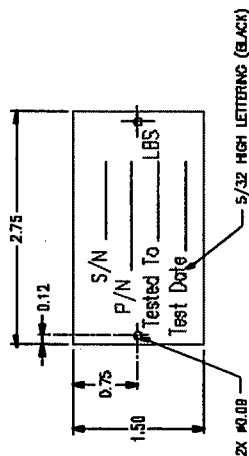
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3

4

UUMDWGS\SHIPTOOL\7377736\DOA01C

NAME 7535160		1		1	
ZONE -		LER A		DISPOSITION PRODUCTION RELEASE	
DATE 0-9-62		BY 0-9-62		APPROVED 0	

[illegible]

**WILSON**

- J. MARKING AND IDENTIFICATION SHALL BE IAW MIL-STD-130.  
METHOD OPTIONAL

DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO THE  
DOD AND DOD CONTRACTORS ONLY; ADMINISTRATIVE/OPERATIONAL  
USE. (18 AUG 93). OTHER REQUESTS FOR THIS DOCUMENT SHALL  
BE REFERRED TO FMS-315.



## 1.0 PURPOSE

The following procedure describes the materials to use and the sequence of operations to follow for painting the cylinder and adapter.

## 2.0 REFERENCE DOCUMENTS

7225791	HOIST CYLINDER ASSEMBLY
7377688	HOIST CYLINDER ASSEMBLY
7377709	HOIST CYLINDER ASSEMBLY
7377582	HOIST CYLINDER ASSEMBLY
7225784	HYDRAULIC ADAPTER ASSEMBLY
7225788	HYDRAULIC ADAPTER ASSEMBLY
7225849	ADAPTER BODY
7377584	ADAPTER BODY
PPS 7225971	UMM CYLINDER ADAPTER CLEANING AND FLUXING PROCEDURE

## 3.0 MATERIALS USED

Products to use are listed here below:

3.1 Mil-P-24441 type IV epoxy paint, formula 150 green primer.

3.2 Mil-P-24441 type IV epoxy paint, formula 152 white midcoat.

3.3 Mil-P-24441 type IV epoxy paint, formula 151 gray topcoat.

## 4.0 SEQUENCE OF OPERATIONS AND HOIST CYLINDER ASSY PAINTING PROCEDURE

4.1 Perform all the mechanical machining.

4.2 Clean the inner parts of the Hoist Cylinder and the Hydraulic Adapter with a cloth wetted with liquid cleaner AXAREL 9100 (PETROFERM INC. CAGE CODE 0WUA8) or equivalent. Clean the external surfaces with the AXAREL cleaner and a bristle brush.

4.3 Dry with compressed filtered air.

4.4 Protect upper and lower interface surfaces by appropriate means. Protect inner surfaces with plugs.

4.5 Perform blast cleaning with quartz sand to achieve surface condition equivalent to Steel Structures Painting Council SSPC-SP 10/NACE NO. 2 (Near-White Blast Cleaning).

SIZE	CAGE CODE	REV
A	53711	A
SCALE		SHEET 2

DRAWN BY: CAGE 34228



At the end of the sandblasting procedure, check the roughness and certify that a superficial roughness of  $R_a > 2.3 \mu\text{m}$  has been achieved on the surfaces.

The sandblasting must be performed according to the following procedure.

- 4.5.1 Siliceous sand n. 3;
- 4.5.2 Nozzle type: 7 ½;
- 4.5.3 Pressure: 6 atm;
- 4.5.4 Distance between baffle and parts to sandblast: 400 - 500 mm;
- 4.5.5 Passages number: 1.
- 4.6 After the sandblasting remove quartz sand with fiber brush.
- 4.7 Start the painting cycle within 3 hours from the end of the sandblasting cycle.
- 4.8 The painting cycle requires the following procedure:
  - 4.8.1 Exclude from painting all the protected surfaces listed in paragraph 4.4.
  - 4.8.2 First coat.

Paint MIL-P-24441 type IV epoxy paint, formula 150 green primer.

Color: green

Dry thickness: 100  $\mu\text{m}$

Wet thickness: 150-175  $\mu\text{m}$

Application method: airless spray.

Wait 24 hours before applying the following coat:

- 4.8.3 Second coat

Paint MIL-P-24441 type IV epoxy paint, formula 152 white midcoat

Color: white

Dry thickness: 100  $\mu\text{m}$ .

Wet thickness: 150-175  $\mu\text{m}$ .

Application method: airless spray

Wait 24 hours before applying the following coat:

SIZE	CAGE CODE	NAVSEA DRAWING NO. PPS 7225759	REV
A	53711		A
SCALE			SHEET 3

4.8.4

Third coat

Paint MIL-P-24441 type IV epoxy paint, formula 151 gray top coat.

Color: gray

Dry thickness: 100  $\mu$ m

Wet thickness: 150-175  $\mu$ m

Application method: airless spray

4.9

After the last coat, cure for 24 hours.

4.10

Uncover protected areas, clean and blow inner surfaces in order to remove all evidence of painting deposits.

4.11

Clean the cylinder body according to the technical specification PPS 7225971.

4.12

Assemble the cylinder.

4.13

Perform a careful washing with detergent or degreaser in order to eliminate evident traces of grease on those surfaces which need to be retouched or painted.

4.14

Retouch the cleaned surfaces as necessary.

5.0

SEQUENCE OF PAINTING OPERATIONS FOR THE HYDRAULIC ADAPTER ASSY

5.1

Perform all the mechanical machining.

5.2

Pressure test the adapter according to NAVSEA Drawings 7225849 or 7377584.

5.3

Clean inner areas of hydraulic adapter with liquid cleaner AXAREL 9100 (PETROFERM INC. CAGE CODE 0WUA8) or equivalent. Clean external surfaces using cleaner and a bristle brush.

5.4

Dry with compressed filtered air.

5.5

Protect upper and lower interface surfaces by appropriate means. Protect inner surfaces with plugs.

5.6

Perform the sandblasting according to the procedure described in paragraph 4.5.

5.7

After the sandblasting, remove quartz sand with fiber brush.

5.8

Start the painting cycle within 3 hours from the end of the sandblasting cycle.

5.9

Complete the painting cycle described at paragraph 4.8.

5.10

After the last coat, cure for 24 hours.

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5.11 Uncover protected areas.

5.12 Complete the cleaning according to technical specification PPS 7225971.

5.13 Perform the final assembly of the cylinder.

## 6.0 GENERAL CHECKS

### 6.1 Roughness Check

Measure the roughness of the sandblasted surfaces. The roughness Ra shall never be less than the value indicated in paragraph 4.5.

### 6.2 Total Thickness Check

Measure the total thickness of the dry film. The total thickness shall never be less than the value indicated in paragraph 4.8 (300mm).

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REVISIONS				
LTR	SHEET NO.	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE RE 33628	00-02-02	MF

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						DRAWN						WP 00-01-26						Procedure/Product Specification for Cleaning and Fluxing UMM Cylinder Adapter												
						CHECKED						R. Garver 00-01-28																		
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						P. Lawson 00-02-09 P. Ditaranto 00-02-04						A	53711							A										
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## 1.0 PURPOSE

The purpose of this Technical Specification is to describe the procedures to be performed during manufacturing, assembling and tests of the UMM cylinder and adapter.

## 2.0 REFERENCE DOCUMENTS

NAS 1638

7377688 Hoist Cylinder Assembly

7377582 Hoist Cylinder Assembly

7377709 Hoist Cylinder Assembly

7225791 Hoist Cylinder Assembly

7225788 Hydraulic Adapter Assembly

7225784 Hydraulic Adapter Assembly

7225849 Hydraulic Adapter Body

7377584 Hydraulic Adapter Body

PPS 7225759 UMM Hoist Cylinder Assembly  
and Adapter Paint Procedure

TS 7225779 PMP FAT Test Specification

TS 7377675 IEM FAT Test Specification

TS 7377690 MFM FAT Test Specification

TS 7377702 HDR FAT Test Specification

## 3.0 CONTAMINATION LEVEL OF THE HYDRAULIC FLUID (2075 TH)

The contamination level of the hydraulic fluid, used for tests and filling of the cylinder before shipping, must be class 9 according to NAS 1638.

## 4.0 PRODUCTION PARTS WASHING

Cleaning is performed in different ways according to the dimensions and the type of the parts to be washed. Cleaned and washed parts must be protected in order to avoid contamination.

### 4.1 Small Dimension Parts (screws, bolts, pins, etc.)

Cleaning of small dimension parts is described below:

- Deburring.
- Wash the parts inside a tank with bristle brush and liquid cleaner AXAREL 9100 (PETROFERM INC. CAGE CODE 0WUA8) or equivalent.

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- Dry with compressed filtered air.
- Visually check dry parts with a white clean paper.

If contaminating particles are visible on the paper, the cleaning procedure shall be repeated.

4.2

#### Medium Dimension Parts (remainder not covered by 4.1, 4.3, 4.4 and 4.5)

Cleaning of medium dimension part is described below:

- Deburring.
- Wash in washing machine with liquid cleaner AXAREL 9100 (PETROFERM INC. CAGE CODE 0WUA8) or equivalent.
- Dry with filtered compressed air.
- Follow cleaning check per procedure described for small dimension parts (para. 4.1).

4.3

#### Cylinder Rod

Cleaning procedure of the cylinder rod is described below:

- Deburring.
- Wash with a cloth wetted with liquid cleaner AXAREL 9100 (PETROFERM INC. CAGE CODE 0WUA8) or equivalent for the internal parts, and with bristle brush for the external parts.
- Dry with compressed filtered air.
- Follow cleaning check per procedure described for small dimension parts (para. 4.1).

4.4

#### Cylinder Body

Cleaning procedures of the cylinder body are described here above:

- Deburring.
- Wash with a cloth wetted with liquid cleaner AXAREL 9100 (PETROFERM INC. CAGE CODE 0WUA8) or equivalent for the internal parts, and with bristle brush for the external parts.
- Dry with compressed filtered air.
- Protect lower and upper interface surfaces.
- Protect inner surfaces with plugs.

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- Perform blast cleaning and painting of the cylinder according to the technical specification PPS 7225759.
- Remove protection, clean all internal surfaces in order to remove all evidence of painting deposits.
- Flux ducts S/C3, B/C2 and A/C1.
- For final check of inner surfaces, follow the procedure described for small dimension parts (para. 4.1).

#### 4.5

##### Adapter Body

The cleaning procedure of the adapter body is described below:

- Deburring.
- Pressure test the adapter body according to 7225849 or 7377584.
- Clean the internal parts with liquid cleaner AXAREL 9100 (PETROFERM INC. CAGE CODE 0WUA8) or equivalent, and with bristle brush for the external parts.
- Dry with filtered compressed air.
- Protect upper and lower interface surfaces.
- Protect inner surfaces with plugs.
- Perform blast cleaning and painting of the cylinder according to the Technical Specification PPS 7225759.
- Remove protection and clean all inner parts in order to remove all evidence of deposits of painting.
- Flux the ducts S/C3, B/C2 and A/C1.
- For final check of the internal parts, follow the procedure described for small dimension parts (para. 4.1).

#### 5.0

##### PROTECTION

If parts can not be assembled immediately, they must be sealed and packed with clean plastic bags or with other material suitable to avoid contamination.

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## 6.0

## WASHING DURING CYLINDER ASSEMBLING

In order to minimize contamination during the cylinder assembling, take the following precautions:

- Assembly must be performed in a separate area specifically chosen for assembly work. The above mentioned area must be free from visible contamination in the air such as dust, metal shavings and welding deposits.
- The surface of the assembly area must be cleaned with equipment which does not emit dust.
- Protective bags and plugs must be removed from their clean components just before assembly. Only necessary plugs shall be removed in order to complete the assembly operations.

## 7.0

## CYLINDER FLUXING DURING TESTS

The oil supplied to any fixture connected with fluxing power equipment must meet the contamination requirement per paragraph 3.

The equipment must have a series of filters in order to assure the cleaning level.

Draw a sample of fluid from the delivery line, downstream from the filters, before starting and after finishing the tests.

Results of oil sample analysis, according to that established in TS7225779, TS7377675, TS7377690 and TS7377702, must be registered as follows:

- date,
- specifications and signature of the person drawing the sample,
- position of the point in which the sample has been drawn, showing the unit which has been tested,
- commercial nameplate of the hydraulic fluid used,
- test results.

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## 8.0

## CYLINDER CLEANING BEFORE SHIPMENT

At the end of the test, fill the cylinder with oil and draw a sample of oil. The contamination grade must be as described at paragraph 3. The results of the analysis of oil sample, drawn as described in TS7225779, TS7377675, TS7377690 and TS7377702, must be registered as follows:

- date,
- name and signature of the person drawing the sample,
- position of the point in which the sample has been drawn, showing the tested unit,
- commercial nameplate of the hydraulic fluid used,
- test results.

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A	53711		A
SCALE			SHEET 6

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## **1.0 SCOPE**

This document establishes the test to be performed, the test equipment to be used and the data to be reported during weight testing of hoist cylinder lifting tools used on the UMM.

## **2.0 GENERAL INFORMATION**

- 2.1 The test procedure is intended to be performed by qualified, skilled personnel from the Quality Assurance (QA) Department or by other internal or external operators under QA control.
- 2.2 The test specified in this document is to be performed in ordinary workshop conditions.

## **3.0 TEST EQUIPMENT**

The following is a list of test equipment to be used during the hoist cylinder lifting tool weight test.

- 3.1 Test weights, 1330 lb., -0 / + 5% and 665 lb., -0 / + 5%
- 3.2 Rigging and hardware as necessary to attach test weight to hoist cylinder lifting tool in both the vertical direction and the horizontal direction.
- 3.3 Chain fall or crane, 1 ton capacity minimum.

## **4.0 Weight Test**

### **4.1 Scope**

Check the ability of the hoist cylinder lifting tool to safely lift the UMM hoist cylinder.

### **4.2 Equipment Being Tested**

Hoist Cylinder Lifting Tool; Calzoni drawing D1217774 (NAVSEA dwg 7377890)

### **4.3 Procedure**

- a) Record serial number of hoist cylinder lifting tool on the Data Sheet.

- b) Clamp hoist cylinder lifting tool to test weight, rigging and chain fall or crane in order to apply a 1300 lb. load to the lifting tool in the vertical (tension) direction.
- c) Crane lift test weight 6-12" off the floor and hold for 10 min. while noting any noises or indications of slippage.
- d) Lower the load and disconnect all rigging.
- e) Remove hoist cylinder lifting tool from test weight.
- f) Inspect fasteners and swivel eyes for signs of permanent deformation. Such signs will be cause for failure. Record the results on the Data Sheet.
- g) Clamp hoist cylinder lifting tool to test weight, rigging and chain fall or crane in order to apply a 665 lb. load to the lifting tool in the horizontal (shear) direction.
- h) Crane lift test weight 6-12" off the floor and hold for 10 min. while noting any noises or indications of slippage.
- i) Lower the load and disconnect all rigging.
- j) Remove hoist cylinder lifting tool from test weight.
- k) Inspect fasteners and swivel eyes for signs of permanent deformation. Such signs will be cause for failure. Record the results on the Data Sheet.

**HOIST CYLINDER LIFTING TOOL WEIGHT TEST CERTIFICATION**

HOIST CYLINDER LIFTING TOOL; CALZONI DRAWING D1217774 REV ( )  
(NAVSEA DRAWING 7377890 REV ( ))

Serial Number \_\_\_\_\_

- TEST: 1. Raise hoist cylinder lifting tool and test weight 6-12" off the ground using vertical lift.  
2. Hold for 10 minutes.  
3. Examine lifting tool after test for physical damage.  
4. Raise hoist cylinder lifting tool and test weight 6-12" off the ground using horizontal lift.  
5. Hold for 10 minutes.  
6. Examine lifting tool after test for physical damage.

CERTIFICATION: 1330 lb. load (vertical lift): (initial) \_\_\_\_\_  
Ten Minute Test: (initial) \_\_\_\_\_  
Physical Inspection: (initial) \_\_\_\_\_

665 lb. load (horizontal lift): (initial) \_\_\_\_\_  
Ten Minute Test: (initial) \_\_\_\_\_  
Physical Inspection: (initial) \_\_\_\_\_

TEST CERTIFIED SAT: (signature) \_\_\_\_\_ Date: \_\_\_\_\_  
(organization) \_\_\_\_\_

Retest date (5 years from date put into service;mo/yr): \_\_\_\_\_



## **1.0 SCOPE**

This document establishes the test to be performed, the test equipment to be used and the data to be reported during weight testing of mast fairing lifting tools used on the UMM.

## **2.0 GENERAL INFORMATION**

- 2.1 The test procedure is intended to be performed by qualified, skilled personnel from the Quality Assurance (QA) Department or by other internal or external operators under QA control.
- 2.2 The test specified in this document is to be performed in ordinary workshop conditions.

## **3.0 TEST EQUIPMENT**

The following is a list of test equipment to be used during the mast fairing lifting tool weight test.

- 3.1 Test weights, 3550 lb., -0 / + 5% and 1775 lb., -0 / + 5%
- 3.2 Rigging and hardware as necessary to attach test weight to mast fairing lifting tool in both the vertical direction and the horizontal direction.
- 3.3 Chain fall or crane, 2 ton capacity minimum.

## **4.0 Weight Test**

### **4.1 Scope**

Check the ability of the mast fairing lifting tool to safely lift the UMM mast fairing.

### **4.2 Equipment Being Tested**

Mast Fairing lifting tool; Calzoni drawing D1217594 (NAVSEA dwg 7377883)

### **4.3 Procedure**

- a) Record serial number of mast fairing lifting tool on the Data Sheet.

- b) Attach mast fairing lifting tool to test weight, rigging and chain fall or crane in order to apply a 3500 lb. load to the lifting tool in the vertical (tension) direction.
- c) Crane lift test weight 6-12" off the floor and hold for 10 min. while noting any noises or indications of slippage.
- d) Lower the load and disconnect all rigging.
- e) Remove mast fairing lifting tool from test weight.
- f) Inspect fasteners and swivel eyes for signs of permanent deformation. Such signs will be cause for failure. Record the results on the Data Sheet.
- g) Attach mast fairing lifting tool to test weight, rigging and chain fall or crane in order to apply a 1775 lb. load to the lifting tool in the horizontal (shear) direction.
- h) Crane lift test weight 6-12" off the floor and hold for 10 min. while noting any noises or indications of slippage.
- i) Lower the load and disconnect all rigging.
- j) Remove mast fairing lifting tool from test weight.
- k) Inspect fasteners and swivel eyes for signs of permanent deformation. Such signs will be cause for failure. Record the results on the Data Sheet.



**MAST FAIRING LIFTING TOOL WEIGHT TEST CERTIFICATION**

MAST FAIRING LIFTING TOOL; CALZONI DRAWING D1217594 REV ( )  
(NAVSEA DRAWING 7377883 REV ( ))

Serial Number \_\_\_\_\_

- TEST: 1. Raise mast fairing lifting tool and test weight 6-12" off the ground using vertical lift.  
2. Hold for 10 minutes.  
3. Examine lifting tool after test for physical damage.  
4. Raise mast fairing lifting tool and test weight 6-12" off the ground using horizontal lift.  
5. Hold for 10 minutes.  
6. Examine lifting tool after test for physical damage.

CERTIFICATION: 3550 lb. load (vertical lift): (initial) \_\_\_\_\_  
Ten Minute Test: (initial) \_\_\_\_\_  
Physical Inspection: (initial) \_\_\_\_\_

1775 lb. load (horizontal lift): (initial) \_\_\_\_\_  
Ten Minute Test: (initial) \_\_\_\_\_  
Physical Inspection: (initial) \_\_\_\_\_

TEST CERTIFIED SAT: (signature) \_\_\_\_\_ Date: \_\_\_\_\_  
(organization) \_\_\_\_\_

Retest date (5 years from date put into service;mo/yr): \_\_\_\_\_



## **1.0 SCOPE**

This document establishes the test to be performed, the test equipment to be used and the data to be reported during weight testing of internal bearing lifting tools used on the UMM.

## **2.0 GENERAL INFORMATION**

- 2.1 The test procedure is intended to be performed by qualified, skilled personnel from the Quality Assurance (QA) Department or by other internal or external operators under QA control.
- 2.2 The test specified in this document is to be performed in ordinary workshop conditions.

## **3.0 TEST EQUIPMENT**

The following is a list of test equipment to be used during the internal bearing lifting tool weight test.

- 3.1 Test weights, 675 lb., -0/+5% and 350 lb., -0/+5%
- 3.2 Rigging and hardware as necessary to attach test weight to internal bearing lifting tool in both the vertical direction and the horizontal direction.
- 3.3 Chain fall or crane, 1 ton capacity minimum.

## **4.0 Weight Test**

### **4.1 Scope**

Check the ability of the internal bearing lifting tool to safely lift the UMM internal bearing assembly.

### **4.2 Equipment Being Tested**

Internal bearing lifting tool; Calzoni drawing D1217597 (NAVSEA dwg 7377880)

#### 4.3 Procedure

- a) Record serial number of internal bearing lifting tool on the Data Sheet.
- b) Attach internal bearing lifting tool to test weight, rigging and chain fall or crane in order to apply 675 lb. load to the lifting tool in the vertical (tension) direction.
- c) Crane lift test weight 6-12" off the floor and hold for 10 min. while noting any noises or indications of slippage.
- d) Lower the load and disconnect all rigging.
- e) Remove internal bearing lifting tool from test weight.
- f) Inspect fasteners and swivel eye for signs of permanent deformation. Such signs will be cause for failure. Record the results on the Data Sheet.
- g) Attach internal bearing lifting tool to test weight, rigging and chain fall or crane in order to apply 350 lb. load to the lifting tool in the horizontal (shear) direction.
- h) Crane lift test weight 6-12" off the floor and hold for 10 min. while noting any noises or indications of slippage.
- i) Lower the load and disconnect all rigging.
- j) Remove internal bearing lifting tool from test weight.
- k) Inspect fasteners and swivel eye for signs of permanent deformation. Such signs will be cause for failure. Record the results on the Data Sheet.

**INTERNAL BEARING LIFTING TOOL WEIGHT TEST CERTIFICATION**

INTERNAL BEARING LIFTING TOOL; CALZONI DRAWING D1217597 REV ( )  
(NAVSEA dwg 7377880 REV ( ))

Serial Number \_\_\_\_\_

- TEST: 1. Raise internal bearing lifting tool and test weight 6-12" off the ground using a vertical lift.  
2. Hold for 10 minutes.  
3. Examine lifting tool after test for physical damage.  
4. Raise internal bearing lifting tool and test weight 6-12" off the ground using a horizontal lift.  
5. Hold for 10 minutes.  
6. Examine lifting tool after test for physical damage.

CERTIFICATION: 675 lb. load (vertical lift): (initial) \_\_\_\_\_  
Ten Minute Test: (initial) \_\_\_\_\_  
Physical Inspection: (initial) \_\_\_\_\_

350 lb. load (horizontal lift): (initial) \_\_\_\_\_  
Ten Minute Test: (initial) \_\_\_\_\_  
Physical Inspection: (initial) \_\_\_\_\_

TEST CERTIFIED SAT: (signature) \_\_\_\_\_ Date: \_\_\_\_\_  
(organization) \_\_\_\_\_

Retest date (5 years from date put into service;mo/yr): \_\_\_\_\_